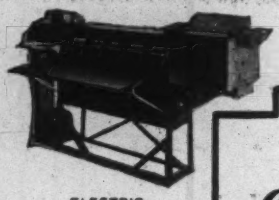
FOR THE WEEK ENDING SEPTEMBER 7 1929

INTERNATIONAL
Business Machines

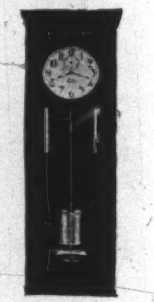
for

Closer Supervision and Increased Profits



ELECTRIC ACCOUNTING MACHINE

INTERNATIONAL CARD RECORDER



INTERNATIONAL MASTER CLOCK

ELECTRIC KEY PUNCH

A recent analysis made by eighteen leading engineers disclosed the fact that twenty percent of the resources and energies wasted by American business as a whole is occasioned by management itself.

It is therefore evident that a closer supervision is needed on the part of management in order to eliminate a vast amount of unnecessary loss, and thereby turn potential profit into *real* profit.

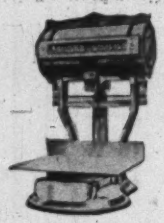
INTERNATIONAL BUSINESS MACHINES are of invaluable assistance to management in bringing about this economic transformation by saving time, labor, and money in all phases of accounting work, in the task of recording time and computing its value, in weighing operations, and in retail selling methods.

Write for detailed information regarding any of the following International Business Machines which will best serve your immediate requirements in making possible closer supervision of your business and more profitable operation.

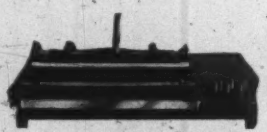
ELECTRIC TABULATING AND ACCOUNTING MACHINES (HOLLERITH PATENTS).

INTERNATIONAL ELECTRIC TIME INDICATING, TIME RECORDING AND TIME SIGNALING DEVICES AND SYSTEMS

DAYTON SCALES FOR FACTORIES, MAILING DEPARTMENTS AND STORES



DAYTON PARCEL POST SCALE



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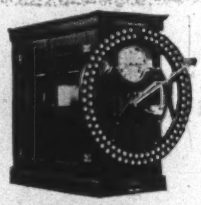

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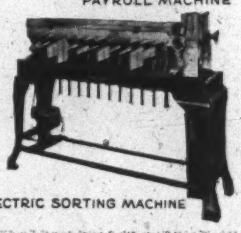

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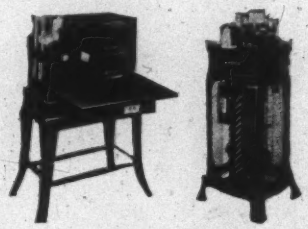

TYPE 83 ELECTRIC TABULATING AND SORTING MACHINES

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INTERNATIONAL TIME RECORDING CO. DIVISION
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The Business Week

A JOURNAL OF BUSINESS NEWS AND INTERPRETATION

FOR THE WEEK ENDING
SEPTEMBER 7, 1929

Business Outlook—Fair But Cooler

THE trade temperature has dropped slightly, after an unusually warm summer, but there is no financial frost in the air as yet, and we look for a long stretch of Indian summer in industry before winter sets in. It is likely to be a fairly open winter, at that.

Looking over the business weather map, the barometers read about like this:

Highs: Employment holds up well. Corporation cash boxes are fuller, and dividends larger. Money is still being made in the stock market and is turning over fast in trade. Carloadings are running high. Bank reserves are strong. Fall activity has begun early in some industries—automobiles, electrical apparatus, boots and shoes. Stocks have not accumulated to any marked extent, and production—save in oil—is well controlled. The European political and financial thunderstorms have passed over and the international economic atmosphere is clearing.

Lows: Industry has been abnormally active all year so far. Forward business is not forthcoming as fast as is necessary to keep up the productive pace. Retail trade has lagged a little behind production. The price level is flabby and lagging. Steel and building are probably on the decline, and automobile figures will probably do no more than park at present levels. The farm outlook, as a whole, is disappointing. The new tariff is in the air and probably will stay there for several months. Congress will be sitting—on the neck of business—soon. Money rates remain at critical, uncomfortable and cramping levels, here and abroad. Security speculation has eaten nearly all of its credit cake. Stock prices are generally out of line with safe earnings expectations, and the market is now almost wholly "psychological"—irregular, unsteady and properly apprehensive of the inevitable readjustment that draws near.

Tariff Racket Begins

THE opening skirmishes in the tariff battle began this week, with Senator Smoot presenting the report of the Senate Finance Committee on the results of its summer perspiration over the suggestions embodied in the Hawley Bill, which the House of Representatives had brought forth in the cool morning of the special session. That is to say, the Republican members of the Senate Committee presented their report; the Democratic minority were as nearly speechless as Senators can be. Silent and sinister, the minority started to lay a mine under the whole tariff entrenchment. It introduced—via Senators Simmons (North Carolina) and Blaine (Wisconsin)—a resolution which would open corporation income tax returns to the Senate Committee so that it might judge the true age and degree of malnutrition of the infant or starving industries crying for protective diet.

Bulletins, communiqués, war trumpetings and drum rolls proceed hourly from Washington indicating what Senator So-and-so, or Representative Whatnot, thinks about schedules or administrative provisions. The net result is that no one quite knows what the tariff bill will finally be, or what will happen to it.

Victory is forecast by all sides, with some Senators on vacation still to be heard from. The first major engagement will center around Borah and his band of insurgents who want to limit changes to the agricultural schedules, or re-commit the bill. This tariff, they say, belongs to the farmer, and industry should be kept off the grass. This barrage probably consists mainly of rockets, for the solid south is not so solid on the tariff question since it has raised some infant industries—protective pickaninnies—of its own.

The scrimmages were further enlivened by the appearance of a women's "Battalion of Death" led by Representative Mary F. Norton of New Jersey, who asserted the Senate Bill would raise the price of women's shoes, hats and perfumes, and other essential feminine sundries. Senator Smoot severely smote Representative Mary by issuing an astounding senatorial bull asserting that this tariff, or any tariff, could have no effect whatever on prices. Thus he alarmed lobbyists and perplexed simple solons, who are now wondering what a tariff is for, anyway.

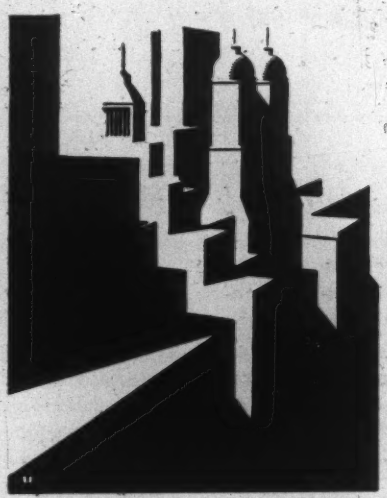
Nothing of any significance can be said about the rates, as yet. All that matters is that, if any tariff bill is passed, the general level of the tariff wall will be raised several tiers above the present level, although the Senate and the resulting conferences in committee may discard one or two extra rows of bricks which the Hawley Bill proposed to lay on.

There is reason to believe that the 1929 tariff law, if it is out of the trenches by Christmas, will be less significant for what it did to the tariff than for what it made it possible to do hereafter. The administrative provisions in the Senate Bill seem innocent on the surface, but they permit a process of gradual, steady and almost unlimited elevation of the tariff wall in much the same way that a coral reef is built.

Business always has adjusted itself, and still can, to any tariff wall by a system of economic escalators and ladders; but coral reefs are a nuisance to commercial navigation. It now looks as though business were bound to be rocked for an indefinite period by tariff uncertainties, even though this special session succeeds in passing a law, for Congress seems bent upon embarking on new experiments in tariff administration.

The Reserve Board and Congress

WASHINGTON strongly believes Congress is going to stick its official nose into the Federal Reserve Board's business ere long. Just one thing can be safely assured about such a move, and that is plenty of fireworks. Efforts were made for an investigation of the Reserve Board this fall, but the tariff



measure blocked the road. Now the aggrieved legislators plan to act shortly after the regular session opens in December, probably early in the new year.

Board members, Treasury officials, and probably governors of some of the banks will be called. Hearings will have an educational value, for possibly no institution is more misunderstood than the Reserve system. The trouble is, it's hard to convince an enemy of anything.

The Reserve Board doesn't want any more power, as some members of Congress insist that it should have. It told Senator Heflin it believed its present powers adequate. Prospect for any legislation on credit is dangerous.

▼

Palestine's Troubles Not All Political

THE Arab uprising will not disturb the economic structure of Palestine to any marked extent, although it may delay recovery from the slump that has been in evidence since the boom year of 1926, and which has been aggravated by a series of poor harvests.

Palestine finds it difficult to support the elaborate industrial structure imposed upon it, for the purchasing power of the population is not sufficient to keep the wheels turning. In theory, immigration from America and Europe will bring consumption up to plant capacity, but actually immigration is decreasing.

▼

Wall Street Talks of Zeppelin Lines

PROUD residents of the little town of Friedrichshafen, Germany, this week waited and watched the sky for the return of the *Graf Zeppelin*.

Wednesday, out of the dawn, it appeared, floated to earth, completed a round-the-world trip in 20 days, 4 hours; bettered the Lakehurst-to-Lakehurst circling by 26 hours. Actual flying time was 13½ days.

Remaining in the United States, Dr. Eckener, with officials of the Goodyear-Zeppelin Company, is negotiating with Wall Street bankers for financing regular transoceanic airship lines. Germany is contemplating transatlantic service; Goodyear-Zeppelin transpacific.

Several regular commercial airship lines are likely to be established within the next two years.

In England, the R-100 and the R-101 are nearing completion. With useful carrying capacity greater by one seventh than the *Zeppelin*, and powered with an additional motor, the R-100 is planned for the transatlantic competition. Slower, but fueled with crude oil which makes it safer, the R-101 will probably be used by England in the colonial service.

▼

Wage Cuts Won't Cure British Textile Ills

OSTENSIBLY the British textile strike was a dispute over wages, but from the American point of view it was another step toward the inevitable readjustment of the industry, which cannot much longer stand the strain of horizontal organization. A 6½ per cent. cut in wages will by no means relieve the burden imposed by the vast overcapitalization of the industry and its excessive plant capacity.

The textile industry must do what the British coal operators have done. Since the strike of 1926 and the repeal

Why The Business Week?

THE BUSINESS WEEK herewith makes its first appearance—on a great plan, with a high ambition. Its ambition is to become indispensable—no less—to the business men of America. Its plan, we trust, shows forth in its pages.

* * *

Swiftly, intelligently, tersely, it tells the week's business news, and the news of business. The distinction is not fine-spun. Business news impinges upon business from outside—news of the tariff, of the reparations settlement, of crops. News of business originates within business—news of developments in management technic, of improved production processes, and (outstanding these days) of changes in marketing methods.

The whole story of the week is set forth in compact limits, a study in the fine art of saving the reader's time. Nothing irrelevant is included; nothing really important is omitted.

There follows a digest of the significant statistics, the wheat sifted out of that overwhelming chaff-storm of figures that sweeps down upon the business man from all points of the compass.

Few facts have intrinsic interest. It is their meaning which concerns men; their relation to other facts. THE BUSINESS WEEK never will be content to be a mere chronicle of events. It aims always to interpret their significance.

THE BUSINESS WEEK serves no single group. It does not aspire to give the textile man his textile news, nor the banker his financial news. Each man should and will read the specialized press of his field. THE BUSINESS WEEK is the liaison agent. It will tell the banker the things he ought to know that are happening in the textile industry; will tell the textile man what of significance to him is developing in finance.

This, we feel, is a great and essential service that no other publication is performing today.

* * *

We build upon a foundation of 22 specialized journals, each a recognized authority in an essential field. Each contributes its highly developed news sources, its expert specialized knowledge, to THE BUSINESS WEEK.

Crossing the vertical organization of the McGraw-Hill journals is the staff of THE BUSINESS WEEK, which divides business horizontally, by functions. An economist, viewing the broad field of business trends, specialists in the study of distribution and marketing, in the lore of production, in the servicing industries, in banking—which is a service function, but so important as to rate especial attention—and so on to the end of the list.

THE BUSINESS WEEK has its complete and seasoned staff in Washington. It has now, and will greatly expand, its news-gathering organization abroad. It has its own editorial representatives in key cities of the country.

* * *

IT is, indeed, a newspaper—a new kind of newspaper, staffed by specialists, more handsomely printed and illustrated than is the wont of newspapers, but a newspaper just the same—swift, and newsy.

Its special articles, its various departments, you will explore for yourself. In them, too, you will find the news flavor strong.

You will find THE BUSINESS WEEK always has a point of view, and usually a strong opinion. Both of which it does not hesitate to express.

You may find a little humor somewhere, if you look sharp.

And all the way through, we hope, you will discover it is possible to write sanely and intelligently of business without being pompous or ponderous. We hope you will miss those vague but solemn generalities about business that pass so often for deep wisdom.

McGraw-Hill Publishing Co.

MALCOLM MUIR, *President.*

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operative marketing has been introduced. The result is that the coal industry is rapidly getting on its feet. Its position will be further strengthened about the end of the year, when a scheme for the co-operative marketing of the entire output of England and Scotland will be put in operation. It is not unlikely, also, that a subsidy will be granted on all coal mined by export.

New Era—
Five Days a Week

STEEL workers, bricklayers, carpenters and other building trades workers in New York, numbering 150,000, now rest on Saturday, while most of us enjoy a quiet half, or even a whole, day of labor, free from the noise of riveting. With this added leisure goes a 10% increase in wages, which will enable the resting population to buy off boredom. These changes followed general walk-out threats made six days one week this summer.

President William Green of the American Federation of Labor said in a Labor Day statement that labor enters on a "new era" of higher wages and more leisure. The five-day week is now

enjoyed by 1,200,000 workers, he said, and not by the rest, but the A. F. of L. will give it to the rest as soon as possible, by working six days a week organizing them.

The estimate seems a little high. S. W. Straus & Company, big-building cash box, estimates that of 800,000 organized building trades workers in the United States and Canada 200,000 have adopted the five-day week. Chicago building workers, who were put off this spring with wage increases, are agitating for a shorter week as a result of the victory in New York.

Building wages throughout the country are the highest in history. As a result of high wages and less hours, Straus says, contractors have to get rivets driven, bricks laid, and walls painted fast. Men over fifty are being eliminated from the trades, and in practically all the large cities of the United States and Canada, except New York, there is a large surplus of building mechanics out of work. Yet building union leaders are urging the five-day week to cure unemployment.

In other industries the short week is here, and spreading slowly. But there are not over 300 manufacturing plants operating on the schedule and probably not over 200,000 workers. The new census of manufactures this year includes a question on this and the results will give the first comprehensive figures.

Meanwhile Russia is tackling this problem of leisure more intelligently by abolishing Sunday. There will be 360 working days a year for business, schools and everything. Workers will work only 5½ days a week—less later—but on a stagger system, so that everybody will not be going to the Russian Coney Island for a holiday at once. Factories will produce more goods, stores will sell more, children will learn more, machines will work more, and people less. Bright idea, if it works, too.

▼

Where the Money Comes From

THE president of a prominent savings bank in the Northwest sends THE BUSINESS WEEK this confidential sidelight on stock speculation.

"In the face of good employment conditions and general prosperity, savings accounts are running off in a surprising amount all over the country. The situation in my city does not differ from that in other large cities, and this in the face of very favorable conditions would tend to increase saving accounts if it were not for the lure of stock speculation.

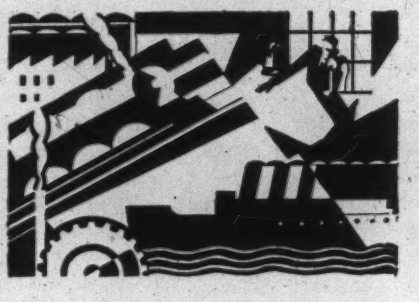
"Our deposits are approximately $1,300,000 less than on January 1. Last year on the same date they were $2,281,000 more. In 1927 the figures showed a $2,000,000 increase, and one has to go back more than twenty years to find another year in which there was any decrease in the net amount of savings on deposit with us between January 1 and August 20. In 1906, under conditions tremendously more unfavorable industrially and agriculturally than the present year, there was a decrease in deposits as between these dates, but it amounted to less than $100,000.

"Undoubtedly a considerable number of the withdrawals made at the present time are for investment in bonds which at present prices are most attractive; but allowing for all other factors, it seems evident that even in this Northwest city, far removed from the large centers of stock market speculation, a large portion of our artisan and moderate salaried class are participating in this speculative orgy, and as might naturally be expected, greatly to their own disadvantage.

"In one day's transactions, one teller reported that he had noted deposits of small checks from a stock brokerage house in this city being deposited by customers. In each case he took occasion to glance at recent transactions on these accounts, and found that while the largest amount deposited in the form of checks from the brokerage house was $181, there had been within a comparatively short time withdrawals of from $1,000 to $3,000 on each account.

"Savings accounts, as it is well recognized, constitute the back-log of commercial credit, and it appears quite evident that if this drain on savings deposits continues or increases, the savings banks will soon be transformed from purchasers of authorized securities to sellers of the same, which on a security market already hampered and crippled by high interest rates, might precipitate serious trouble in the business world.

"If the situation were local the matter would be of but passing interest but when the same tendencies are manifest in New York, Boston, Philadelphia, Cleveland, Minneapolis, Los Angeles and Seattle, it seems to me that it becomes a very pertinent factor for consideration in reviewing the present economic situation."



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Death-Duty Diplomacy

TEXAS joined the band-wagon and thus increased to 34 the list of states which have agreed to be decent about inheritance taxation. The decency of those 34 states consists in this: Each will refrain from levying death duties on the estates of residents of any of the other states. This will relieve those who live in any of these states from double or multiple taxation of inheritance.

The fourteen states that have not yet seen the light will still tax the transfer of stock or property in corporations within their jurisdiction even though it is owned by non-residents. But their sulking will not matter much except to them. Only two of these states are east of the Mississippi, they have comparatively few corporations whose stock is widely distributed—or will be after this situation comes to be widely appreciated—and the other 34 states will take such pleasure in taxing stock-holding residents of the 14 recalcitrant ones that these will probably be forced into line soon. Their citizens have more to lose when they die than the states will gain.

▼

IMPROVEMENTS in method come even to the oldest food industry of the world—animal slaughtering for food. Armour has just developed a new method of carving the steer which gives a greater proportion of profitable cuts. Swift is chilling beef in a new way that is said to make meat more tender.

EVERYBODY'S AFTER THE HONEY

What Bull Market?

QUITE as the Commission appointed by a Chinese prince to study horse-racing reported that no two horses run with equal speed, so statisticians are discovering that a bull market is not all bull, and that all stocks do not always rise. The Midland Bank of Cleveland says that of the thousand and two stocks listed on the New York Exchange 614, or more than 60%, were lower on August 21 than on January 2, and only 388 had advanced. Concluding: "Except in a minority of high-priced and active stocks, we have actually been experiencing a bear market since the first of the year."

Dr. Paul Willard Garrett, who financial-edits the New York *Evening Post*, has also made a like meditative computation for the recent bull movement, showing that of the 516 listed stocks that sold on May 27—when industrial stocks reached their poorest position for the year—366 have gone up, and the rest have descended.

The moral is: buy only the stocks in the stock averages, for you see on a later page that they *always* go up.

Finance ▶

Barclay's Invades Canada

BARCLAY'S (Canada) was opened in Montreal on Tuesday of this week. It is the first invasion of Canada by a British banking institution. The step is significant, an effort to weld the Empire closer.

Third largest of England's "Big Five," Barclay's, Ltd., has by far the largest foreign business. Its expansion throughout the Canadian provinces will be but a matter of orderly progression. The parent bank has almost 2,000 branches in the British Isles, and $2,000,000,000 of assets. Branches in France, Italy, Africa, Asia Minor and the Indies make the total far larger. Its far flung affiliations make it attractive to those who do business abroad.

The ten Canadian chartered banks apparently did not oppose the new institution. Any distinct enmity could have resulted in blocking of the charter in Parliament. Relations in most cases are even cordial. There is a direct connection with the Bank of Montreal.

The British banking invasion of Canada will not directly affect the United States. Invasion of the United States is extremely improbable. Barclay's, Ltd., has representatives in New York, but does business only with banks. Its connections make an imposing list.

Distribution ▶

Plenty of Hope for the Small Store

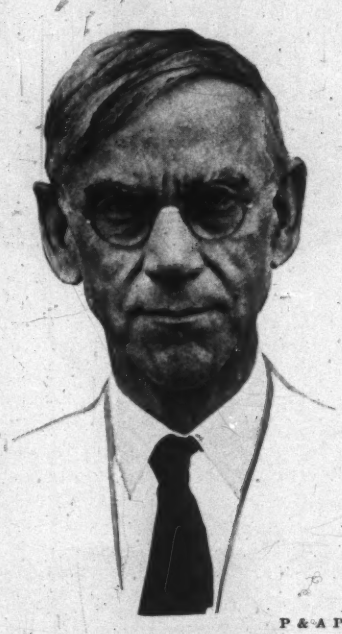
LEADERS of thought in the field of distribution made memorable this week's Conference on Retailing in Boston.

O. H. Cheney, vice president, Irving Trust Company, declared he knew no modern methods. "It is efficiency rather than method that makes success." Every method has its limits. When the mail order houses outgrew the mail business they started other methods, not because the new methods were better, but because they had reached the limit on the old.

David J. Woodlock, manager of the National Retail Credit Association pointed out a growing use of sound credit procedure by the larger retailers. He presented new data, gathered by the government. The subject should have had more attention.

The Harvard Bureau of Business Research reported that in its annual cost survey it has found the ratio of operating costs to sales has risen in chain stores and fallen in the independents. This gives another indication that in some lines chain development is reaching saturation.

Walter Hoving, executive vice president of R. H. Macy Co., referred to the selection of buyers and the organization of buying procedure as the key to proper selection of merchandise. He predicted



P & A Photo

HERCULES IN STATISTICS

Senator Reed Smoot will endeavor to push the Republican super-tariff through opposition barrage

that the selection of merchandise more scientifically will be the outstanding department store development of the next ten years.

Earl C. Sams, president of J. C. Penney Co., on "The Relationship of the Chain Store to the Independent Store," said:

"The threadbare argument that the chain store enjoys a superior purchasing power has been sadly overworked. The independent merchant has plenty of opportunity to counterbalance this point through the kind of individual service he is privileged to render each customer. And I believe that no one recognizes this fact better than we who are 'in the know' of chain store merchandising."

Petroleum ▶

Gas War On In Soconyland

MOST turbulent of industries in good times or bad, petroleum during the past six months has not tried very hard to hide its predicament from the 1,500,000 stockholders who have invested eleven billion dollars in it. In fact, beginning last spring when the program of national conservation started to fail, the great companies began to get ready for the inevitable. They began to get ready for war.

It all began, characteristically, with an editorial in the *Lamp*, official house organ of the Standard Oil Company of New Jersey. The omniscience of this little bi-monthly journal before the powers of the petroleum world is proverbial. As a matter of fact it has come to be widely known that its more powerful pieces are written by the great inner men of the Jersey company, notably by President Walter C. Teagle, who in addition to being the reigning and ranking executive of the company is a lawyer of learning and an accomplished writer. Consequently last week's editorial, entitled "The Over-Zealous Refiner" was read with avidity by everybody in the oil world.

This article dared cite some figures by way of prediction. Here are some alarming points:

1. Overproduction of crude in the United States for 1929 was estimated at 5,000,000 barrels a month.

2. The increase in accumulations of gasoline for the first six months of the year was 8,400,000 barrels, six times as much as the increase during the corresponding period of 1928, despite an increase of consumption of 15.38%.

3. Overproduction starts at the mouth of the well. It is easy to see what the producer has done to prevent himself from earning a fair return on his capital and skill. He has nonchalantly run 45,000,000 barrels into storage, and he is running 15,000,000 more into accumulated reserve to finish off his year.

4. Not to be outdone in imprudence by the producer, the refiner, ordinarily more reasonable, has gone ahead madly to an accumulation of the stupendous total of 8,400,000 barrels of gasoline above ground despite the certain knowledge on the part of the refining industry that the loss caused by having to sell the

by-products of refining, notably fuel oil, would have to be charged back to the gasoline. The refiners deliberately disregarded the known statistics of consumption.

5. "The industry can find no fault with the manner in which sales of its principal product have mounted."

Pacific Coast States, for example, increased gasoline consumption 12%, but California increased production 38%.

6. "This situation emphasizes once again the fact that the only definite and fixed factor the petroleum industry has to deal with is market demand, and that the overproduction of either crude or finished products cannot be forced into an increased consumption regardless of price."

Within twenty-four hours after the publication of the *Lamp's* editorial on the over-zealous refiner, two things happened: First, the president of the American Petroleum Institute, Edwin Benjamin Reeser, better known as head of the Barnsdall Oil Corporation, issued a sweetly reassuring statement that the problem of overproduction would soon be solved, that "greater harmony and willingness to co-operate than ever before" existed, that "there is positive assurance for the first time that the immense natural resources of petroleum will be conserved for the use of generations of our people beyond the power of the present generation to estimate." Second, the Standard Oil Company of New York, which dominates the gasoline business of New York State and New England, famed Soconyland of booklet and poster, slashed the price of gasoline in New York City and adjacent territory three cents a gallon. This is its reply to the recent invasion of its territory by the Shell Eastern Petroleum, American subsidiary of the great British-Dutch world trust, the Royal Dutch Shell. Thirty minutes later every oil company operating in the metropolis, a dozen big ones and a horde of "bootleggers," had posted the identical cut.

The war was on, Mr. Reeser's sweet reasonableness to the contrary notwithstanding.

It has promise of developing into a very hot little war in Soconyland. Soconyland's quota is 300,000,000 gallons per month. At the initial cut of three cents a gallon somebody will be paying another $10,000,000 loss on gasoline in Soconyland this month.

Aviation ▶

Chains Reach Into the Air

ST. JOSEPH, Mo., has given away its municipal airport for 20 years for $20. It becomes the sixth link in a chain of airports extending along the Missouri river for some 50 miles north of Kansas City, operated by Woods Brothers Corporation of Lincoln, Neb. This is the first case of applying the chain idea to airport management.

P & A Photo

CONSUMER'S CHAMPION

To Furnifold McLendel Simmons, North Carolina's doughty Senator, Democratic floor leader, falls the job of out-smiting Smoot

Fairfax Airport, main link in the Woods Brothers' chain, was recently opened in downtown Kansas City, only a few minutes from the business center of the metropolis that now stoutly claims to be the logical air center of the United States. Three hundred thousand people —86,000 automobiles by actual traffic count—attended the formal opening of Fairfax on August 4.

A mile up the Missouri river from Fairfax is a small rectangular airport, Parkville; 10 miles farther is a square one, Farley; 3 miles beyond is the municipal airport of Leavenworth, which is triangular; 10 miles north is the Atchison airport, which tends to be circular. About a dozen miles farther up the river is the St. Joseph airport, just taken into the chain.

Small cities named here have considered it good business to turn development of municipal airports over to a competent private enterprise.

Principal sources of income of Fairfax and its auxiliary airports, in the order of importance, are: gasoline, rentals, concessions. The management believes, however, that concessions will move from third to first place. When 25,000 people visit an airport on a Sunday they will leave $5,000 or more. Almost any crowd anywhere will spend 15 to 25c each.

Building ▶

New Heating Unit Efficient, Small

RICHMOND RADIATOR COMPANY has developed a steam radiator with steel or copper fins. It is more efficient than the cast iron radiators in common use. A 36-inch section of the new radiator, eight inches high and three and one-half inches thick, has radiation equivalent to 15 square feet of cast iron radiator. The Floorline radiator, as it is called, occupies so much less space than old types that it can be made inconspicuous by recessing.

Freight ▶

Detroit Builds Union Truck Station

DETROIT'S first union trucking terminal, 282 x 200 feet, is to be built downtown by the Intercity Trucking Service, Inc., operators of 100 trucks on long distance lines. Others of Detroit's 76 licensed trucking lines will make use of the terminal.

E. E. Prine, of the Detroit Board of Commerce:

"Half the L. C. L. freight between Detroit and its trading territory moves by truck. At present a shipper may have trucks from a dozen or more lines backing up to his platforms daily, each seeking a few small shipments. When the new terminal is in operation, one truck can take everything to the central point, where it will be easily sorted and dispatched. Cost and trouble will be lessened all around."

In the union terminal all transferring will be done under modern rainsheds,

as at a railroad terminal. Trucking companies foresee a substantial increase in business because shipments of goods through Detroit can be handled faster and cheaper. Transfer from one line to another now is a hit-or-miss matter.

Commercial trucking is highly developed in and around Detroit. Shippers in other centers will watch with interest this new experiment in providing union terminal facilities.

Michigan state regulation of trucking companies is rigid. Cargo insurance is compulsory. Applicants for trucking permits must prove financial responsibility. Effort is made to protect existing lines from undue competition by requiring each applicant to prove the "public convenience and necessity" of the new line he proposes.

Rates and schedules have to be put on file. Most rates from door to door exactly equal rail rates from station to station. Savings average 7c per 100 pounds at each end of the haul.

Adding together gas tax, weight tax, license fees, and permit tax ($130 for 5-ton truck), total fees paid by Michigan trucking companies toward maintenance of highways run about 10 per cent of gross revenue.

Russia ▶

Soviet Plans Roads and Motors

RUSSIA is to become motorized. Soviet government plans to turn out 192,000 automobiles annually and to build 23,000 miles of roads. Ford Motor Company is co-operating in the construction of a factory at Nizhni-Novgorod with a capacity of 100,000 passenger cars yearly. The Amo plant in Moscow is to be expanded to produce 25,000 two-ton trucks, the Yaroslav plant 1,000 heavy trucks and the Spartalk plant 2,500 light machines each year.

About $100,000,000 has been apportioned by local and federal authorities for road improvements. Plans call for 4,500 miles of stone dressed roads, 9,300 miles of gravel roads, 700 miles of graded and drained dirt roads and 1,600 miles of asphalt roads. Seven bridges have been built.

To create a body of skilled mechanics to carry on these projects, the Soviet government is inviting specialists to come to Russia to teach in the government operated plants and schools and is sending young workers into many and varied industrial organizations abroad to learn foreign methods.

Freight ▶

Kansas Bus Line Hauls Freight

"NEAT uniforms" for all its truck drivers have just been purchased by Southern Kansas Stage Lines Company, operators of a fleet of twenty trucks and eight trailers which haul approximately 150,000 pounds of freight out of Wichita nightly except Sunday.

A. H. Hall, traffic manager: "Meetings with all drivers are held twice a month at which we impress upon them that they are in reality the company's salesmen. The public judges us by their actions.

"It is surprising to me that more bus companies have not attempted to develop freight business. I believe that bus companies are the logical people to do it. Most of them have their own garages, shops and terminals, and could take on freight operations with very little increase in overhead expense. The public will welcome the chance to give freight business to reliable bus concerns. At least that is the way it is working out with us here in the Central West."

Southern Kansas Stage Lines freight service was inaugurated in November, 1927, by purchase of a small line between Wichita and Eureka. Freight routes today are 500 miles long; bus routes, 2000 miles.

Rates charged are rail rates plus 5c per hundred pounds. By use of a uniform bill of lading, classifying and rating shipments, and way-billing on forms similar to those used by railroads, and by operating trucks upon dependable schedules, shippers are given the sort of service to which they are accustomed.

There appears to be logic in the contention that buses and motor trucks should be operated together.

Automotive ▶

Baby Austin Books American Orders

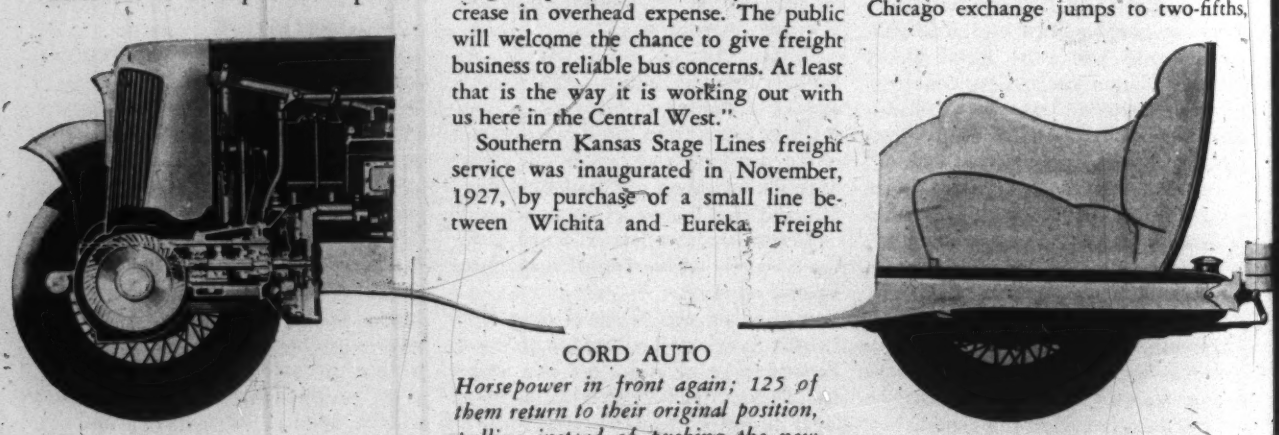
PLANS continue for presenting an American-built Baby Austin car. Orders are being booked, dealer applications are being received, financing of the American Austin Company is reported complete and progress is being made on the plant at Butler, Pa. Production is expected to begin early next year.

The tiny car, with an engine rated at seven horsepower, took third and fourth places in the recent Tourist Trophy Race at Belfast, Ireland. A supercharged Mercedes-Benz and a supercharged Alfa Romeo, both much larger cars, took first and second places. The average speed of the Austin which came in third was 59.6 miles per hour over the 410 mile course.

Finance ▶

Chicago Doubles Its Stock Traders

CHICAGO stock exchange has declared a dividend of 100 per cent. Each member gets another membership. From having 235 members, one-fifth as many members as New York, the Chicago exchange jumps to two-fifths,



CORD AUTO

Horsepower in front again; 125 of them return to their original position, pulling instead of pushing the new front-axle drive Cord automobile.

Underwood & Underwood

WARMING UP AT 350 MILES AN HOUR

Flying-officer Waghorn traveling faster than man ever moved before. He is trying out the Supermarine S-6, against a threatening sky over the Solent at Calshot

470. The last seat sale before the membership increase was for $110,000.

Machinery is being otherwise overhauled and oiled in anticipation of possible million-share days. To date the high mark has been 745,000 shares, reached Aug. 3.

Stocks listed on the Chicago exchange have increased in numbers even more than have members. At the beginning of 1928, there were 274 listings. That year, 297 were added. The list has been growing ever since. The largest single listing, 27,000,000 shares of Cities Service Company common, was made recently. Four hundred tickers are now in service in 26 cities, against 136 a year ago. Plans call for 500 tickers in 40 cities by the end of the year.

But this is not the whole story of stock trading in Chicago. While all this has been going on, 300 employees of Chicago Board of Trade houses have been going to night school, studying stock accounting methods and related subjects. Stock trading will begin on the Board Sept. 16.

"There is but little difference in floor trading in grain and stocks," says a Board of Trade official. "The Board turns out the fastest moving brokers in the world. Our men go to the New York stock exchange and make names for themselves as floor men. They have learned what speed really is. Our ticker runs only seven seconds, not several minutes, behind the market."

A few weeks ago there was some talk about merging these two exchanges. Recent developments seem to indicate that it is all off now.

Public ownership of business and industry is being made increasingly easy by the current rapid development of local stock exchanges of which the Chicago exchange is largest. (Chicago even has a Curb, too!) Because of local security markets in many cities business men are now able to secure invested capital at economical rates, where formerly it was necessary to seek borrowed capital in the form of bank or mortgage loans.

Aviation ▶

New Peak in Production

AIRPLANE motor production reached its high during the first half of this year with 3,826 motors, retail value $14,349,375. The Aeronautical Chamber of Commerce reveals that total retail value of airplanes, engines, and parts produced was $50,000,000. This is within $12,000,000 of the total retail valuation for all twelve months of 1928.

Transportation ▶

Air-Rail Fares Begin to Fall

THE New York Central has reduced the fare on its two-months old New York-Los Angeles air-rail service from $233.76 to $223.51. From Cleveland to Garden City, Kansas, the passenger is transported by air. A full business day is saved over the all-rail trip.

The air-rail fare of $223.51 includes lower berth travel, also meals on the air portion of the trip. Slightly more than 67 hours are spent traveling.

Contrasted, the all-rail trip requires 80½ hours; costs, with lower berth on fast special fare trains, $154.77; with compartment, $273.89.

The economics of business will demand recognition of the time-saving possibilities in air-rail travel as fares approach all-rail rates.

Steel ▶

Cleveland Foresees Mergers

WHEN Cyrus S. Eaton returns soon from vacation at his boyhood home in Nova Scotia, some move toward consolidation in the steel industry of the Central West is expected. Several times important companies have seemed on the verge of uniting along lines made logical by their stock ownership and their markets, but nothing has taken place openly since the union of Republic and Steel & Tubes a year ago.

Eaton represents his own and the Samuel and William G. Mather interests in several independents of the Pittsburgh-Ohio region. Their financial development has been taking the form of the holding company rather than the merger.

At least four financial vehicles are being employed to hold the stocks now commanded by the Cleveland groups. One is the $30,000,000 two-year syndicate formed by Eaton last spring. Another is Continental Shares, one of the three Eaton investment companies, which owns stock in several important manufacturing companies as well as in

two or three of the steels. A third is Cleveland Cliffs Iron, originally William G. Mather's ore and coal company, now a holding company. A fourth is the investment of the Van Sweringen-Bradley group.

The Van Sweringens are now believed to be the largest single stockholders in Otis Steel, as well as in its related Midland Steel Products Co.

A merger of Otis Steel, Corrigan-McKinney Steel and Bourne-Fuller of Cleveland was supposedly imminent, but it appears to have been delayed by tax questions in the settling of both the Corrigan and the McKinney estates. Three widows now control the property.

Eaton recently acquired about 20 per cent of the stock of the Bourne-Fuller Co., a small but completely integrated steel company which grew from the manufacture of bolts and nuts.

Any union of the independent steel companies of Cleveland would cut directly across important banking connections. In fact a merger of the independent steel industry of Ohio might precipitate mergers of other types.

Youngstown Sheet & Tube, in which the Mathers of Cleveland have long been interested, is expected some time to enter the grouping on which Eaton has been working, but President James A. Campbell, who will be 75 on Sept. 11, has steadily opposed any consolidation in which Sheet & Tube did not control.

The Eaton group also has holdings in the Wheeling Steel Corporation, to the directorate of which President W. R. Burwell of Continental Shares recently was elected. Wheeling Steel's plants are mostly along the Ohio river and it ships to Detroit a large amount of automobile steel, as do most of the companies in which Eaton and the other Clevelanders are interested.

Science ▶

Grape Fruit Noises

A STETHOSCOPE for listening to grape fruit has solved a fruit problem. Until recently there was no way of detecting the Mediterranean fruit fly in grape fruit without cutting the fruit open, thereby spoiling it. Since worms eat fruit by tearing off morsels, they make a noise in so doing, and if this sound is amplified by thermionic valves or tubes (like those in radio) the sound of flies eating into fruit is audible.

Railroads ▶

Union Pacific Builds High Morale

SEVEN special trains carried 650 picked athletes and musicians, employees of the Union Pacific System, accompanied by several thousand fellow employees and members of their families, to Boise, Idaho, to attend the company's fifth annual athletic meet on Labor Day and the Tuesday following.

There were: a track and field meet, contests in baseball, swimming, golf, tennis, rifle shooting and trap shooting, and even horseshoes. This year for the first time sons of employees competed in a special "junior section" open to boys under 18.

Of Union Pacific's 52,000 employees, 17,000 are members of the 53 athletic clubs of the system.

Athletics make for morale, Union Pacific believes. Morale, however fostered, makes for better service and higher profits. Many railroad systems have great success in building up this most valuable intangible asset.

Athletic events in Boise started on time. Promptness was to be expected. Between December 20, 1925, and April 25, 1929, Union Pacific hung up a world's record for consistent promptness by operating 11,380 consecutive fruit trains from California to Council Bluffs, *on time*. These trains averaged 75 cars each, three-quarters of a mile in length and six and a half million pounds in weight. But, until the 11,381st, not one Union Pacific fruit train was late.

Railroads ▶

Hill Roads Fight While Waiting Merger

THE giant railway twins of the Northwest — the Great Northern and Northern Pacific—are whiling away the time until a decision on their merger application by staging a brotherly combat. This regardless of the fact that both lines are owned by the same group of financiers.

The companies are fighting to develop a potentially rich area between the Yellowstone and Missouri rivers in Eastern Montana, large enough to enclose half a dozen New England states.

In such matters the two Northerns are aggressive rivals. A policy of keen individualism and competition keeps executives and workers continually on their toes.

Like numerous other present-day ambitions of the Great Northern (including its projected entry into California) the Montana program is an old-time dream of the late "Jim" Hill. Hill surveyed a route from the eastern border of Montana to Lewistown. Line was constructed as far as Richey. In 1927 the Northern Pacific, owning 4,000,000 acres in the district, apparently man-

Wide World Photos

CIERVA'S AUTOGIRO

Off from a lawn. Down in a garden. In 500 feet can the Cierva helicopter plane safely get under way; it can be brought to a stop on fifteen feet of a tennis court. It was shown at Cleveland; hopes for a Guggenheim prize

euvered the Great Northern out of the picture by winning from the Interstate Commerce Commission permission to build an extension which took in part of its rival's route.

The Northern Pacific built to Circle and Brockway, with the approval of the Commission, while the Great Northern watched from the sidelines, its own extension plea denied. Louis W. Hill, son of the genius James J. and chairman of the board of the Great Northern, announced abandonment of its cross-state project.

Today Louis W. Hill and Ralph Budd, the Great Northern's aggressive president, are attempting to get back into the field. They found a new route from Richey to Lewistown, north of the one blocked by the Northern Pacific. The road has asked the I. C. C. for authority to construct a $3,000,000, 105-mile extension from Richey to Jordan, and, eventually to Lewistown. Immediately the Northern Pacific leaps to arms with the protest that there is room for only one railway in the territory. The I. C. C. must pick the winner.

Distribution ▶

Iceless Freight Cars In Use

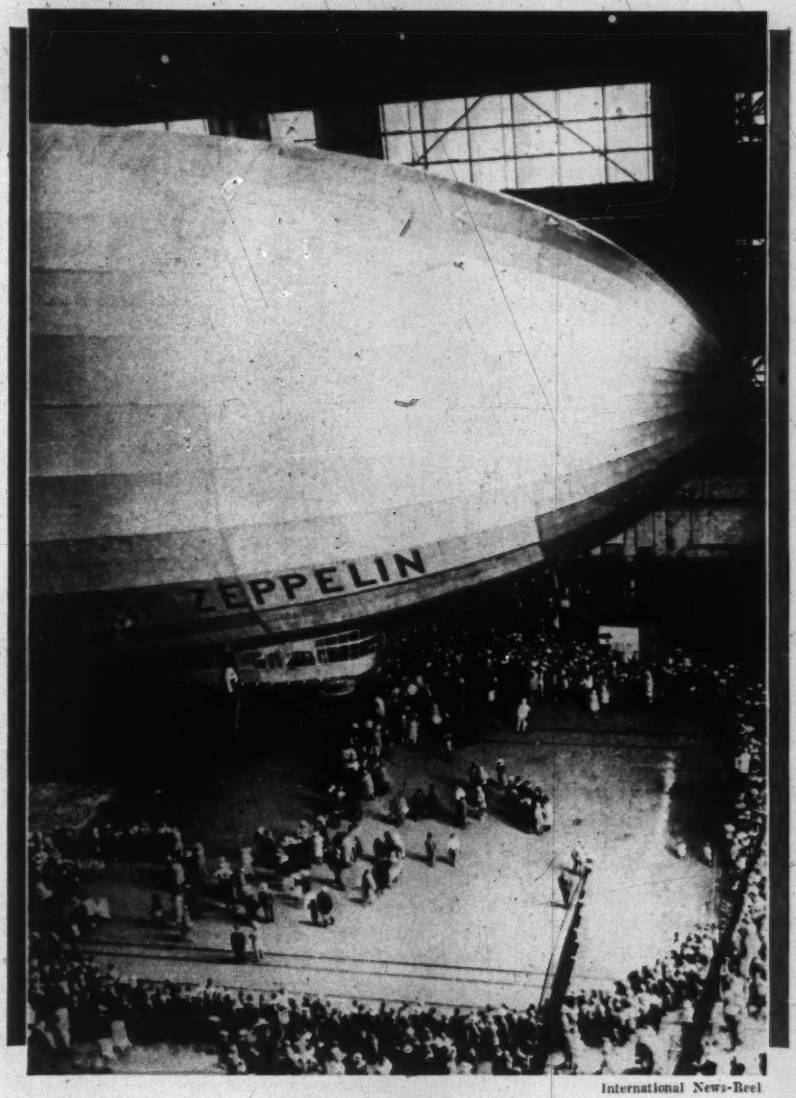
MANUFACTURERS of perishable foods are watching performances of 31 iceless refrigerator freight cars. A load of frozen strawberries from Portland, Ore., arrived in Chicago the other day in a car which had maintained a uniform temperature of 18 degrees above zero all the way. To New York came a load of fresh eggs from Seattle in a temperature of 45 degrees. The trip took 11 days. Several carloads of cold packed cherries were handled from Sturgeon Bay, Wis., to Chicago. Twenty more iceless refrigerator cars are being built.

Foods ▶

Dry Ice Finds Many New Uses

DRY ice—solidified carbon dioxide gas—is finding new outlets daily. Its manufacturer, Dry Ice Corporation of America, increased daily production this year from 50 to 170 tons. Ten new plants have been opened and six others are planned. Capacity of 370 tons daily is to be reached by May, 1930.

Dry ice was first used in ice cream shipments. Now it is used in specially designed, non-returnable cartons for meat products, frozen fish, frozen fruit and a variety of perishable products. It is used for motor truck refrigeration in many industries. Small shopkeepers who cannot afford a complete refrigeration plant find it useful. Airplane passenger lines use it.



International News-Reel

THE BODKIN OF THE AIR

Nose of the monster needle which threaded the world around. Visitors inspect the resting Graf Zeppelin at Lakehurst before its homeward flight to Friedrichshafen

Radio ▶

Programs in Cans

THEY'RE buying radio programs in cans! Cinema Vision Corporation has been organized to provide broadcasting stations with complete programs on sound films. Just the "sound" part of the talkies is being used. Films are made in special recording studios. Prints of the films are distributed to broadcasting stations. Country-wide chain broadcasts without the use of land wires are possible through definite release dates for each film. Forty-three stations in this country and thirty abroad are said to be already allied with the new system.

Steel ▶

Westinghouse Puts Welders to School

USE of welding in manufacturing and building work has been delayed because it is so hard to be sure the weld is good. Almost complete reliance must be placed upon the ability of the operator. Therefore, proper training of welders is very important. Westinghouse Electric not only trains its welders thoroughly but also gives them periodic tests.

Every four to six weeks, each welder is given jobs similar to his regular work. His welds are tested in a laboratory. Wage increases and promotions are based on the tests. The plan may have to be adopted by other large users of welding processes. More than in most other mechanical processes, improper workmanship in welding is serious.

Construction ▶

New Floor Uses Electric Weld

A NEW type of floor construction is being investigated which is expected to improve strength and stability of buildings, reduce dead loads on columns and be available at reasonable cost for all projects.

The plan is to use I-beams spaced about 24 inches apart to span between girders. On the tops of the I-beams will be laid continuous steel plates which will be automatically welded together and to the I-beams. This would provide a much lighter construction than the type now used. The steel plates can be covered with any standard floor material. Fireproofing can be obtained by cast blocks of fireproofing inserted on the lower flange of the I-beams or by metal lath and plaster ceilings.

Gas ▶

A Venerable Industry Awakes

AMERICA'S gas industry has suddenly developed pep. Ambitious projects to pipe natural gas hundreds of miles over hill and dale, under rivers and mountains, and into the large cities have awaked a once sleepy industry from its lethargy. Constantly increasing use, and the new uses, of gas have fired capital's imagination.

No wonder gas men are excited. The 80,000 miles of natural gas pipe lines already laid will look like a garden hose in the back yard when the projects for extending pipe lines are completed. Plans are afoot to pipe natural gas a thousand miles from the Texas Panhandle to Chicago. A 421-mile line is being built from north Louisiana to Birmingham and Atlanta. Pipe lines already in operation extend from Amarillo, Tex., to Denver, 300 miles; another from north Louisiana to New Orleans, 200 miles. St. Louis gets its gas from the same field, 475 miles away. New York City may yet get natural gas from the West Virginia field, 400 miles distant.

Manufactured gas men are keenly interested in the new Industrial Power Corporation, to serve the stock yards district in Chicago. There, the production of gas as a by-product in the low temperature distillation of coal marks an important step in the development of industry. This process will develop all the power and steam needed for fuel. At the same time, the excess gas can be sold to other industries and to domestic consumers. By-products—tar, light oil, automotive fuel, bakelite—are sold.

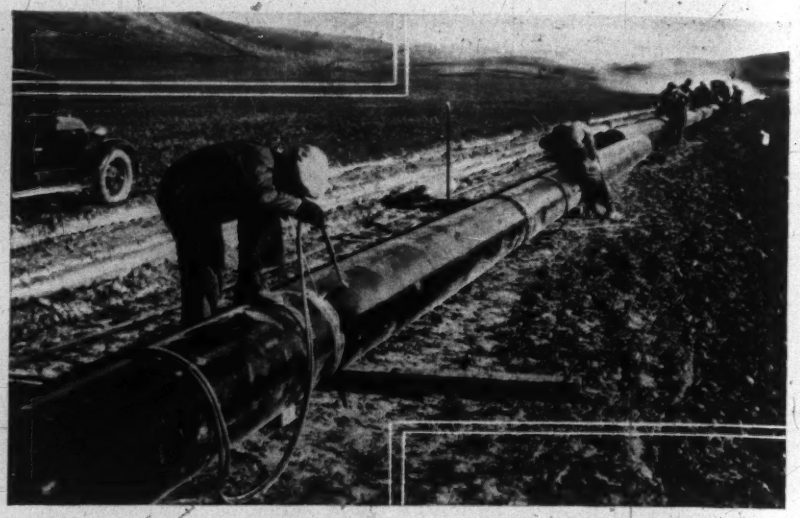
Natural gas and manufactured gas leaders are eyeing each other with increasing suspicion. The Chicago district will offer a field for conflict. In Birmingham, the by-product coke gas from the steel mills has had a monopoly for years. The Southeastern Gas Company, behind the north Louisiana-Birmingham-Atlanta natural gas line, will have to battle to break in.

Causes of the revival: One, the discovery of new natural gas fields in northern Louisiana, and the Texas Panhandle. Another, the growing use of gas in industry, creating a rapidly increasing demand. The gas interests are just now waking up to their powers.

It is all very disturbing to the electrical men. They have been fairly smug. The increasing inroads of gas have given them a sudden jolt. Over the past twenty years, the consumption of gas has increased 330 per cent. There are approximately 16,000,000 gas customers at present in the United States. Today, over 20,000 industrial processes are known in which gas plays an important part.

Automobile manufacturing, shipbuilding, printing, the metal industries, the leather, food, and catering trades, catering, laundries, varnish manufacture, and others, world without end—all use gas extensively. From 100 to 500 per cent increases in its use have been registered in iron and steel, glass plants, petroleum refineries, smelting and refining, brick plants, pottery, and clay.

Recent adoption of gas for brass melting has been hailed as an outstanding achievement. What with gas used in house heating, drying operations, and for refrigeration, the race for supremacy has just begun. The electrical industry will need all its ingenuity.



WELDING GAS PIPE-LINE

Welding across the prairies. A new art aids in resuscitation of a great national industry. Pacific Gas & Electric's welders string pipe towards San Francisco from the great gassers at far-away Kettleman Hills

What is going to happen when natural gas gives out? Some estimates give it a fifteen-year limit. Natural gas and manufactured gas can be easily mixed, but will it be economical to transport artificial gas alone hundreds of miles? And is it likely that the steel plants (as in Birmingham district) will scrap their by-product coke gas simply to accommodate the natural gas invaders?

Into this picture likewise come the Federal Government and State Commissions. How shall these vast pipe lines be regulated, and what shall be the determining factors in fixing rates?

The gas industry, modern Rip Van Winkle, has at last awakened. The industrial development of the future is indissolubly bound up with it.

Production ▶

Steel Workers Wear White Ducks

WHITE pants in a steel plant sounds funny but the American Rolling Mill Company is finding them of value in its Ashland plant. The movement towards white pants was started by the workers, not by the management, although the management approves. Nearly 400 workers now appear daily dolled up in immaculate white duck. A foreman, realizing the psychological effect of clothes and cleanliness upon workmanship, prevailed upon his men to wear white pants. Other foremen saw the good sense in his innovation. Now the Ashland plant looks like Atlantic City's boardwalk at the height of the season.

Distribution ▶

Don't Expect a Good Census

HUNDREDS of thousands of business men are going to be questioned by the government this winter as they have never been questioned before. It is for their own benefit and for the benefit of all of us consumers. The main purpose of the questions is to reveal wastes in distribution and thus to make possible reductions of the costs of living. For the first time in history, we are to take a census of distribution.

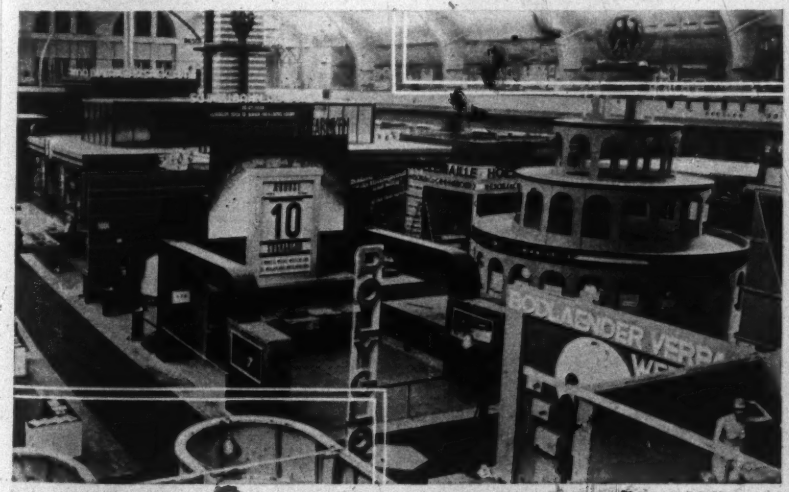
But American retail and wholesale merchants are suspicious. When the government asked questions, it always meant taxes or regulation. So they have told as little as possible. Some business men have even refrained from keeping books, because books can be demanded by officers of the law.

Can these same men be induced to change their whole attitude in a few months and help in the gathering of census data? Can they be reassured that their reports will not be used against them when the tax collector comes around? How can the Census Bureau tell all these thousands that its data cards are locked privately in its own files where no one can see them but sworn employees of the Bureau?

Multiplied by hundreds, even with the best of publicity, will be cases such as encountered in the trial censuses taken two years ago in eleven cities. Even with all the explanations possible the Baltimore police were called again and again by small storekeepers to come and arrest the enumerators in the first trial census. Because they didn't have stars!

The first census of distribution therefore cannot be expected to yield complete data. Only the most general of questions will be asked most shopkeepers—gross business—number of employees—number of proprietors, and the like. The more detailed commodity questionnaires will be used only for the relatively small number of big dealers and wholesalers who do, to be sure, the bulk of the business.

But just that fact will vitiate the returns. We will fail entirely to get a real picture of the enormous total of business done by small merchants. All we can hope for is that the experience of this census will educate. Later we can take a real census of distribution.



Underwood & Underwood

OUTDOOR ADVERTISING SCULPTURE

Berlin's International Advertising Congress saw the modern trend in signboard design. Plainly we have much to learn

Production ▶

Slag Makes Wool For Insulation

A NEW material has been developed for building insulation, against high and low temperature, sound-proofing, fire-proofing. It is a mineral wool made from lead slag. Therm-O-Proof is the trade name of this light fluffy substance which will not melt or burn below 2,500 degrees in Fahrenheit. A plant at Alton, Ill. is making it in four forms—as loose wool, in blankets, in boards, in bricks. Slag is obtained from the lead refinery plant of the American Smelting and Refining Company. The fifty tons daily production is being used mainly for insulating houses. A blower device forces four inches of the wooly insulation into wall spaces, between attic joists.

Mergers ▶

In Baby Chicks

WITH the merger of the American Baby Chick Producers Association under the International Baby Chick Association, all the existing national baby chick organizations, as well as the state organizations, are brought together in one association.

Railroads ▶

Freight Forwarders Fight for Jobs

THE recent report of the I. C. C.'s examiner, Harry C. Ames, favoring railroad container service on less-than-carload lot shipments has started the freight forwarders on a mad race for new jobs.

Two large freight forwarding services are already in the making. The United States Freight Company, and the National Freight Company. United States Freight now operates a container system over the New York Central lines to Cleveland; over the Pennsylvania to Pittsburgh; the Lehigh Valley, to Baltimore; and the Boston & Albany, to Boston. Expansion of its service is planned as far west as St. Louis, and from the Canadian border to the Potomac and Ohio Rivers.

National Freight, formed only this week, plans a general freight forwarding service to be operated in conjunction with the Pennsylvania and other important railroad lines. Every large city and center of business industry in the country will be served. The business of both these systems will be the assembling at their warehouses of less-than-carload freight shipments of many shippers. These will be consolidated and shipped in carload lots of containers.

The expanded service of these two companies will cover sections of the United States in which nine-tenths of the freight originates. Of course, the I. C. C. has yet formally to approve, and publish container freight rates.

Insurance ▶

The Sudden Rise of Sun Life

THE Sun Life Insurance Company of Montreal has become a rival of Mr. Mellon's Aluminum Company and Jack's Beanstalk for rapid upward motion. The company's stock has gone up in price about $400 a share in the last two months. Almost none is available. Quotations show $2,850 being bid for the stock with $3,000 a share asked.

Reason for the rise is twofold. Investments of the company are reported to have appreciated more than $35,000,000 in price in recent months. The company is writing a tremendous amount of insurance. The directors would like to split up the stock and issue more of it, so as to put it within a price reach of more investors. But the Parliament, which must assent, doesn't think that should be done. So Sun Life of Montreal remains in upper regions of the blue chip field.

Herbert Photo

DIZZILY DOWN—AS THE BRIDGE-WORKER SEES LIFE

The weaving of suspension cables from the great Hudson river bridge tower to the foundation anchorages at 178th street, New York City

Petroleum ▶

The Gas Behind the Oil

SCHOLARS assert that even the legal origins of petroleum practice were bizarre. It appears that under our English system of law, ownership of oil beneath the earth was first determined by citing the precedent of very early game laws. Oil was held to be migratory, like game animals and wild birds. It belonged to the man on whose land it was captured, just as trapped animals belonged to the landlord who trapped them.

Here is the root of all our trouble in overproduction of petroleum. Every landowner may trap as much oil as he pleases, off his own land or off that of his neighbor, down the slope or up the hill, as the case may be. The Federal Government can do nothing; neither can the State Governments. Neither, under the Sherman Law, can the oil companies. The situation looked hopeless.

But somebody thought of a device, as usually happens in time of peril. It was proposed to regulate the production of gas. Without gas the crude petroleum will not rise to the surface unpumped. Regulations forbidding waste of natural gas would by the very nature of things prevent overproduction of petroleum.

Sept. 1, the Lyon Gas Conservation Law went into effect in California. It is a noble experiment and the State will do its best to enforce it. The Conservationists in the industry are in favor of it. It was the Gas Conservation Committee of the American Petroleum Institute which in 1927 did all of the scientific work on which the present law was based. The oil men who are in favor of production at all costs, for immediate profit, will fight the law tooth and nail. Its constitutionality is dubious, say some lawyers. The interests involved are so enormous that the issue will be thoroughly tried out.

Meanwhile California remains the only bright spot on the oil map, the only place where citizens will deliberately forego today's profit for the benefit of those who are to come, consumers of tomorrow, our descendants.

Finance ▶

Bank Laws Make Queer Animal

THE bank merger movement reached New England this week. The First National Bank of Boston and the Old Colony Trust of Boston are going together. First National already is the largest bank in New England.

The restrictive banking laws prevailing in the United States cause a strange three-headed creature to emerge. All three heads will be attached to the same body of stockholders.

Laws restrict branch banking. So the two banks have been carrying on this business through the agency of holding companies—just as other large banks are doing. Legal technicalities of Massachusetts make it quite awkward to transfer trust business in a merger. So here are the three heads of the creature that will emerge:

The First National Bank of Boston will have the commercial business of both former institutions. It will also have the branches in Boston permitted by law, and the foreign branches of both former institutions in Europe and South America. The Old Colony Trust Company will continue under its present charter to handle its trust business. The First Old Colony Corporation will maintain the branches which the First National Corporation formerly had and the stock ownership in banks near Boston formerly held by the Old Colony Trust Associates. The First National Corporation had eight branches from St. Louis east. The Old Colony Trust Associates held stock in 14 banks near Boston.

The new bank will continue under a national charter as a member of the national banking system. Recently banks in many large mergers have left the national system for the greater freedom of state laws.

The entire organization, including the trust business and the holding company will have resources much larger, probably not far from $1,000,000,000. It will be among the first sixteen in the United States.

Aviation ▶

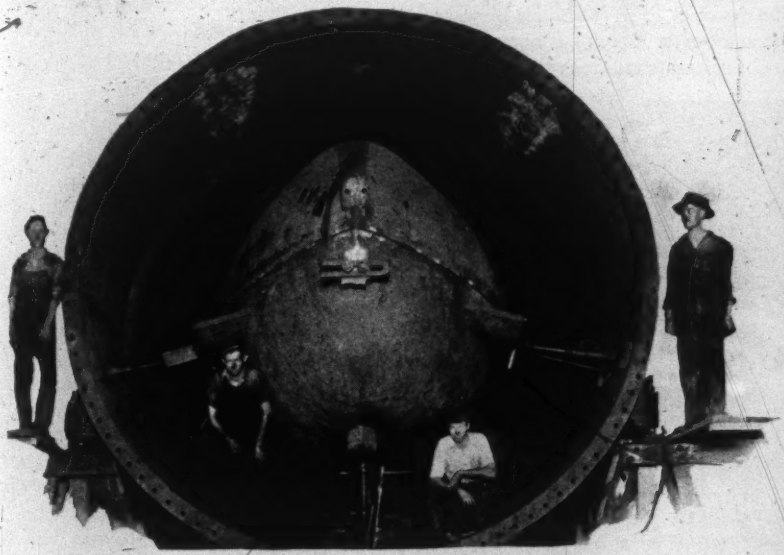
Rolling Down to Rio—By Air

FASTEST steamship service between New York and Buenos Aires requires 18 days. The next competing line takes 21.

This week the New York, Rio and Buenos Aires Line announces regular 7-day air service—mail, express, passenger—over the 8,000-mile east coast route via Tampa and the West Indies. Planes will leave New York and Buenos Aires January 1.

Fares and express rates have not been announced. Permission to use the 19 flying fields in Brazil, heretofore exclusively conditioned and used by Latecoere (French air service joining South America and Paris in cooperation with fast transatlantic mail steamers) is a help during the period of establishing the line. Exclusive mail contracts already secured augur well. The governments of the Argentine, Uruguay, and Venezuela have already signed. Rates written in the Argentine contract are $10 per pound to the United States, $5 per pound to Uruguay. Uruguay and Venezuela settled on $6.40 per pound to the United States. Seventy per cent of all South American mail originates in these three countries.

The first service of the new company is already being flown between Buenos Aires and Montevideo. An affiliated company, American International Airways, has flown the Santiago, Chile, to Buenos Aires route for three weeks.



PUMPING BACK THE RAIN

When it rains it pours in New Orleans. Seven monster pumps like this one, and a battery of smaller ones, pump the rain which falls upon the immense surface of the city back up into the Mississippi River. If a cloudburst dropped 14 inches of rain on New Orleans in 24 hours, these pumps could lift the water back from its level below the sea into the river above, just as fast as it falls

Industry ▶

Co-op Homes; Why Not Factories?

ONE of the big derelicts of the textile depression in New England is to be salvaged. The enormous buildings of the Everett Mills in Lawrence, Mass. have at last found users. Twenty manufacturers have taken them over on a co-operative basis. They will rent surplus space to others. The new companies will employ 5,000 workers where the Everett Mills employed about 1,800 in the same buildings.

Pabst rented space in the plant in Milwaukee when prohibition came, and the rents from the property are said to have yielded more profit than the brewing of beer ever did.

Railroads ▶

Cool Car for Summer Travelers

SUMMER railway travel will no longer be quite so unpleasant if other roads adopt the plan inaugurated by Southern Pacific. Ten of its latest lounge cars are painted with aluminum paint and have windows of special glass. It lets light rays through but is almost opaque to heat rays. The aluminum paint reflects 20 to 25 per cent of the heat rays striking it.

Swift Survey of Business Abroad

ON the whole, Europe is experiencing the most generally prosperous summer since the war. Successful termination of the Hague conference, liquidation of the Lancashire cotton mill strike and, for the present at least, no recurrence of Austrian rioting have removed the principal adverse factors in the European business picture of a week ago. Conditions are now characterized by generally good crop prospects, satisfactory industrial activity, more or less easy money markets and rising volumes of consumption and trade.

Great Britain—Exceptionally little seasonal relaxation, especially coal and steel; general activity higher than a year ago although no marked advance is in prospect. Lancashire cotton strike settled with 6.4% wage cut after 18-day stoppage. Settlement is not regarded as removing necessity for basic reorganization of this over-extended industry. Bank rate unchanged at 5½% notwithstanding continued gold exports. Overseas trade satisfactory and retail trade unusually brisk for this season. (Radio.)

Germany—Expanding exports of manufactures and diminished imports of foodstuffs reduced adverse trade balance to only 4% of imports in first six months. This improvement is of basic importance to German national economy and is further reflected by the stronger gold position of the Reichsbank.

France—Basic industries at high levels with stronger domestic consumption. Machinery industry continues boom. Imports in first six months gain 17%, largely raw material and foodstuffs; exports slightly lower.

Italy—Apart from seasonal dullness in some lines, August marked definite business improvement, especially in the northern industries, supported by excellent crop prospects although hindered by continued credit stringency. (Cable.)

Belgium—Industry well occupied but retail trades depressed and tourist traffic below expectations.

Netherlands—Only slight summer slackening; crops fair to average.

Czechoslovakia—Industrial activity only slightly below 1928 record. Trade reflects stronger purchasing power.

Hungary—Production and merchandising distinctly improved by stronger farm buying. Unfavorable trade balance smallest in three years. Ample short term funds but long term accommodation still needed. (Radio.)

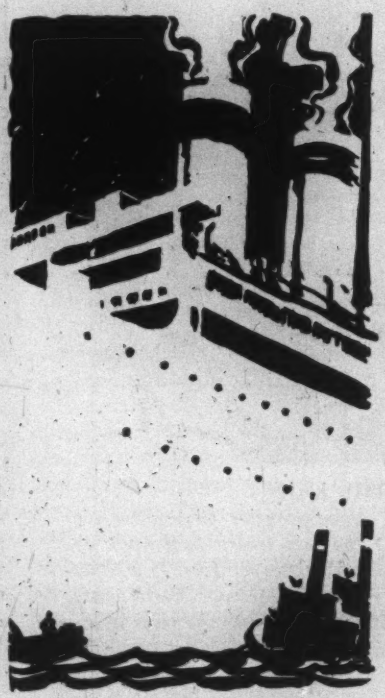
Poland—Crop movements accentuate chronic credit stringency. Fiscal position of the government improved.

Denmark—Seasonal lull interrupts upward business trend but bumper crops at high prices, large exports and active shipping point a favorable forecast. (Cable.)

Norway—Steady industrial activity; shipping well occupied except large steamers. This year's whaling fleet, 190 ships, 50% larger than year ago. (Cable.)

FAR EAST

The threat of open hostilities between China and Soviet Russia has not affected general business conditions which in the main remain seasonally quiet but easy.



Hawaii—Seasonally slack but excellent crop prospects, record summer tourist trade and Canadian Pacific announcement of new, four-liner winter service presage prosperous winter.

Philippines—Seasonal slow-down; better sugar, good rice prospects. Improved textile credits considered a favorable business index. (Cable.) Half-year trade returns show increased imports all major items except wheat flour; exports greater except copra which is now more active.

Japan—Continued restricted consumption and subnormal business activity forecast. Government curtails next year's budget expenditures. (Cable.)

China—Business conditions quiet. Local press foresees liquidation of Russian conflict. Railway Minister estimates reorganization costs of Chinese railways at 60,000,000 silver dollars. American interests reported as participating substantially in rapidly developing aeronautic program. (Cable.)

Australia—Business contraction; crop prospects less satisfactory. New customs tax affects American heavy motor trucks. Brisbane-Melbourne airline to open in November. (Cable.)

LATIN AMERICA

Incipient improvement in several previous depression centers, notably in Brazil, Mexico and Panama.

Argentina—Quiet; half year imports larger; exports decreased. Net immigration higher. Spring crop area somewhat smaller. (Cable.)

Brazil—General business conditions slightly improved and recent sequence of important business failures believed ended. Optimism returning. (Cable.)

Chile—Basic conditions good.

Mexico—Favorable business index seen in improved textile production and sales. Credit stringency somewhat relaxed. (Radio.)

What the Figures Show

FIGURES for the last week of August show business quieter than any week since early in the year, but still far more lively than a year ago.

Steel mill operation was down slightly last week to less than 90% capacity, about 10% below the peak rate in May—but compare the 75% figure a year ago. The decline during the summer was steady but slow, and the present rate is expected to hold fairly well for a month or so. Rail and auto demand is not expected to pick up much from now on, the bulk of the year's railway equipment orders are over with, but miscellaneous demand will probably sustain a fair activity for some time.

BITUMINOUS production keeps such a fast pace that, despite low stocks, hope of substantial price increases fades, and buying is slackening.

Petroleum output keeps hitting peak after peak, despite an over-production for this year, estimated at 5,000,000 barrels of crude and 8,400,000 of gasoline, in face of a 20% increase in gasoline consumption during the first half. Heavy bombardment of prices has broken out on the retail front, but crude prices are being maintained.

The important farm crops are coming to market in large volume. Wheat receipts are particularly heavy; cotton, cattle and hogs are coming in faster than in the week before or a year ago.

GENERAL building contracts fell off for the week, but were about the same as a year ago. On the whole, the total volume of building this year, as shown on the chart on the next page, has run not far below last year. This is principally because of a continued high level of heavy construction. *Engineering News-Record* figures show heavy construction contracts—$81,261,000 in the week ending September 5 against $57,000,000 the week before and $65,670,000 the same week of 1928. Their figures for the year to date show $2,895,724,000 compared with $2,397,614,000 in the same period of 1928.

Car loadings are running high, at a record for the year and for the week. Considering the amount of goods being trucked, this indicates a pretty heavy movement.

Money turnover, measured by check payments, fell off for the week, but is running about 30% higher than a year ago.

FIGURES OF THE WEEK

	Last Week	Preceding Week	Year Ago
PRODUCTION			
Steel Mill Operation (% capacity)	89%	90%	75%
Building Contracts (daily average in thousand dollars)	$17,473	$20,502	$17,561
Bituminous Coal (1,000 tons)	9,974	9,539	9,276
Petroleum (daily average, 1,000 bbls.)	2,973	2,966	2,503
TRADE			
Car Loadings (thousands)	1,130	1,100	1,081
Check Payments (million dollars outside N. Y. City)	$6,037	$6,305	$4,794
Wheat Receipts (1,000 bushels)	18,533	13,635	15,972
Cotton Receipts (1,000 bales)	272	185	186
Cattle Receipts (thousands)	297	247	300
Hog Receipts (thousands)	429	424	373
Wool Receipts (1,000 lbs.)	8,263	9,380	4,594
PRICES (Weekly Average)			
Wheat, No. 2, hard winter, Kansas City	$ 1.22	$ 1.24	$ 1.06
Cotton (middling, New York)	$ .193	$ .187	$ .191
Iron and Steel (composite)	$36.52	$36.52	$35.10
Copper (electrolytic)	.178	.178	.145
All Commodities (Fisher's Index)	96.9%	97.0%	100.0%
Interest Rates—Call Loans	8⅜	6⅜	7⅜
Interest Rates—Time Loans	9	8⅞	6½
FINANCE			
Total Loans and Discounts, Federal Reserve member banks (millions)	$16,950	$16,938	$15,791
Commercial Loans, Federal Reserve member banks (millions)	$ 9,429	$ 9,428	$ 9,051
Brokers' Loans	$ 6,354	$ 6,217	$ 4,289
Federal Reserve Ratio	73.2%	75.4%	68.6%
Stocks Sold (New York Stock Exchange, 1,000 shares)	20,325	23,688	20,242
Bond Sales (par value, thousands)	$48,052	$53,937	$38,845
Business Failures (number)	365	399	389

THE general price level remained steady for the week, according to both the Fisher and the National Fertilizer Association Indexes. The level is still higher than a month ago but about 3% below a year ago.

The iron and steel price remains steady, and at this writing, the copper price, too. The copper market during the week, however, has been stirred by a flurry of speculative excitement. The buyers' strike since the bull copper market last spring appears to have been broken by the close control of producers. Production was cut during the summer, stocks have been falling off. Buyers have rushed back to market, taking a record of 190,000,000 pounds last week. Anaconda advanced rods and wire a quarter cent and a battle is said to be on with the rest of the field. The latter want to hold copper at about eighteen cents. The spurt of demand and the pressure on prices in copper may be a sign of sustained industrial activity for the rest of this year.

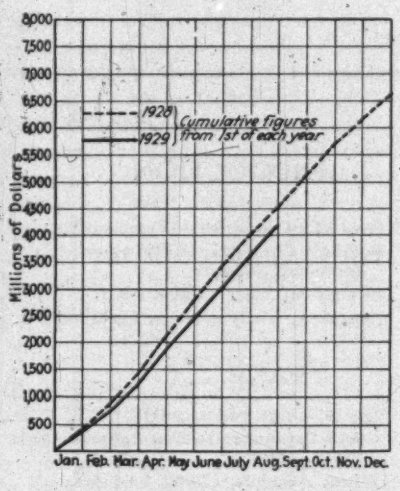
THE number of business failures last week was lower than the week before and than a year ago. Dun & Co. report the number in August totalled only 40 above July, and the second lowest total for the year to date. August failures were about 5% under August, 1928. Dun says liabilities have been increased slightly each month since June, but the August, 1929 figure is $24 below the August, 1928 figure. Bankruptcy figures grow more confusing. While Dun reports a decrease in liabilities of 42% for the first eight months of 1929 compared with the same period last year, Bradstreet reports an increase of 25.3% and a decrease in the number of failures from 1,581 in July, 1929 to 1,367 in August.

August sales of Montgomery Ward and Company were 46.7% higher than August a year ago, and the largest in the company's history. Sales for the last eight months were 31.3% above last year.

AUTOMOBILE production is becoming increasingly irregular. The small, cheap car output is slackening in all except Ford, but higher priced cars, especially new models, are active. Conditions in the automobile industry are reflected in the six months' record of the eight principal companies, who make about 40% of the total. They show an

TOTAL BUILDING CONTRACTS AWARDED IN 37 STATES

F. W. Dodge Corporation



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increase in output during the first half of 1929 over the first half of 1928 of 7.3%. Net earnings of these companies, however, increased only 2.1% for these periods.

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Farmer Will Buy as Much as Usual

FARMERS, statisticians, traders, and the Government have been engaged all summer in an exciting guessing game about this year's crop and crop prices. The game may be brought to a close by the September crop reports, on which statistical seers in Washington hold their seance described on another page.

It is a strange and uncertain situation for the farmer, what with the vagaries of the weather and the weevil, and the fluctuations from excessive optimism and immoderate skepticism concerning that new agricultural Providence, the Federal Farm Board. One widely recognized crop authority remarked: "At this time we know less about this cotton crop than of any other crop at the corresponding period."

The Government crop reports will not settle all the uncertainty. In cotton, the barometer and the bugs still have a few parts to play; in wheat the foibles of foreign buyers, and the Argentine and Australian crops—still about three months from harvest. In larger part, though, the results of the September crop estimates have probably already been discounted.

It is fairly clear that the cotton crop will be very close to, and possibly slightly below, 15,000,000 bales. The crop has gone bad with drought and weevil in Texas, Oklahoma, the valley states and Alabama, but is better in Georgia and the Carolinas. The strange thing is that cotton prices have remained weak, have not fully reflected the crop situation. Prices are still sagging below nineteen cents—cheap cotton for a short crop.

Fifteen million bales would just about meet the consumption requirements of last year when cotton was selling at 19 to 20 cents. The reserve supply is about a million bales lower than normal. Slack speculation in cotton futures may reflect influence of the Farm Board, promising credit to hold cotton; more important factors probably are suspicion of slight business recession in the next six months, lower consumptive demand. The export market is also poor.

The world wheat crop will almost certainly be somewhat short of last year. Our own winter wheat seems about average. The spring wheat may show a little better in the September report than in the August, but will be considerably below the average, or last year. Wheat prices, too, are unaccountably weak. The record large visible supply, which may reach 200,000,000 bushels against 88,000,000 last year at this time, is holding back both foreign buyers and domestic traders.

Farm Board aid to wheat hedging may help farmers realize better prices later, but it does not look as though the Farmers National Grain Corporation will be organized in time to do much.

The corn prospect has had a dramatic turn-about since the August report, when about last year's crop was expected. This year's looks about 300,000,000 bushels less than last, the smallest yield since 1913, with one exception.

Generally, the Agricultural Department estimates a 5% reduction in the total of thirty-four principal crops, with average farm prices about 5% over last year. There will thus be no marked change in total agricultural income.

Wall Street's Week

WALL STREET started the stock market strong after its triple holiday. Fifty-seven stocks were sent up to new high prices for the year on the first day of the trading week. Important and unimportant traders alike, back from the holiday, wanted stocks. Some investment trust buying was present and helped the movement. Formation of several new trusts assures a continuance of this buying.

Then the market hesitated. Three impending events made the traders' knees shaky. They were the Bank of England meeting, announcement of the monthly Exchange brokers' loans figures, and the weekly Reserve report on the same subject. Events proved two of the three events unfavorable to the market. But the effect was small.

The rate charged for call money hovered around 9% and had no important effect marketwise. Some signs of tightening appeared on Thursday. Call for funds from the interior and demand for money to pay for the $134,000,000 Blue Ridge Investment Trust issue were the principal factors. Large dealings in bankers' acceptances took place the first of the week. Time money was dull. The bond market showed no signs of improvement under such money conditions.

As the fall begins there is a tenseness in Wall Street. Its presence is undeniable. There is a general feeling that something is going to happen during the present season. Just what it will be, when it will happen or what will cause it—anybody's guess. The strong position of the banks and the Federal Reserve system are the source of no little satisfaction. The market had a sharp hint of what the future may hold when it slumped Thursday afternoon on the brokers' loan rise and a bearish statement by Roger W. Babson.

Bank of England Fights Valiantly

THE Bank of England's maintenance of its rediscount rate at 5½%, plus settlement of The Hague conference, was the big news from abroad in the week. Neither item had marked effect.

The Bank of England lost a small amount of gold in the week, The Bank of France and the Reichsbank gained a little. In no case was the change of importance.

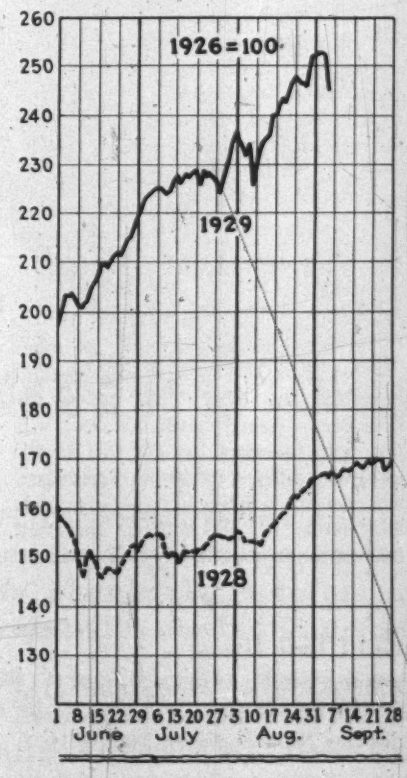
But sterling exchange continued very weak in New York, Paris, and Berlin, dropping below the gold shipping point in some cases. Unwillingness of New York bankers further to embarrass London was all that prevented much more gold from coming past the Statue of Liberty. The main demand from both Paris and Berlin also seems satisfied.

Directors of the Bank of England are still waging a valiant fight. They do not want to impose a higher rate on industry and trade. All signs continue to be strongly against their success. Their gold holdings ebb out little by little.

Borrowings from the Bank of France are at practically a high record for all time. But extensive gold holdings of the bank are ample, and the ratio of reserves to liabilities is highest it has ever been since stabilization of the franc. The British gold reserve has reached the lowest point in more than four years. Money is tightening in Berlin, with little prospect for aid.

THE MARKET DAY BY DAY

(Standard Statistics Company's Daily Stock Price Index)



Brokers' Borrowings Up

NEITHER Wall Street nor the Federal Reserve officials got any joy from the brokers' loans reports of the week. Federal Reserve compilation showed a tremendous leap to another new high record. So did reports of stock exchange members, made monthly. Increase was largely in New York City bank loans—not favorable to the market.

The increase in the week reported by the Reserve system was $137,000,000. The total went to $6,354,000,000. That is just about $1,000,000,000 higher than these loans were at the first of June.

In the month of August loans reported by all members of the Stock Exchange increased $407,000,000. That brings that total to $7,881,619,000. The total is much more inclusive than the Federal Reserve figures.

The stock market worried over the precipitous drop of about 7 points in the ratio of reserves to liabilities of the New York Reserve Bank. The drop for the entire system was more than 2 points. In both cases borrowings by member banks increased and bill holdings continued upward. Money circulation grew and member bank deposits went upward. The system lost gold, mostly from the New York bank. The ratio therefore went down.

Increase in borrowings from the system amounted to $73,000,000 and increase in bill holdings to $26,000,000. Total Federal Reserve credit outstanding increased in the week $103,000,000.

The member bank report showed nothing of importance. A net of $18,000,000 more credit was put into use, mostly through commercial loans.

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SECRETARY MELLON felt that the market would be favorable to government short term securities. He surprised the financial district by making an offering of $500,000,000 with interest at 4⅞%, compared with 5⅛% which the Treasury paid on its issue three months ago. The need of the banks for this paper as secondary reserve during the next few months was important in the Treasury's offering at the lower rate.

With depleted investments and a large indebtedness to the Federal Reserve, banks will buy these certificates for discounting in case of emergency.

July Ups and Downs

THE July industrial picture is being pieced out. The twenty production indexes so far produced arrange themselves thus:

Up for the month: Pig iron, silk consumption, petroleum, zinc, cement, sugar, boots and shoes.

Down for the month: Steel ingots, cotton consumption, woolen mill activity, copper, tin, anthracite coal, tobacco products, automobiles.

Down for the year, July to July: Only leather, sugar, cement.

Mineral production, as a whole, was up for the month and the year.

Commodity stocks at the end of July were greater than in June or a year ago—chiefly in raw materials.

Unfilled orders declined from June but were generally higher than a year ago.

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Farm Prices Up Slightly

THE government index of general farm prices rose from 140% to 143% of the pre-war level in the month from July 15 to August 15—an increase over the previous month and over a year ago of about 2%.

Potato prices showed the largest increase for the month—59%—in fact the sharpest advance in twenty years, this due to marked reduction in supply following the over-production of last year.

Wheat prices advanced only 8%, cotton 1%. Prices of hogs and meat animals generally were down slightly because of increased marketings over a year ago, but are higher than last year.

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What'll They Do With It?

FOR the first time in years the railroads are getting a look at some money. Net operating income of first class railroads for July may reach $121,000,000, against $95,226,267 for July last year, an increase of about 21% over a year ago. The first 72 roads reporting for July showed $110,074,000, or 28.1% over last year. Some back pay for carrying mail owed the roads by Uncle Sam accounts for the July increase in part. Some roads do not specify this item, but allowing for those that do the July increase would still be 18.4%. On the $121,000,000 estimate for July the first seven months net income would amount to $684,362,364, or earnings at a yearly rate of 5.4% on the book property value, compared with 4.45% last year.

Poor crops in the Northwest, slower business the rest of the year, may reduce the gain somewhat, but there will still be a substantial increase in railroad earnings over last year.

Question: Will the roads use it to cheer rail security holders, to tempt rail security buyers; will they spend it on themselves; or will the Government spread it out in "recaptures" or rate reductions?

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Bumper Dividend Crop

THOSE who get any will get more dividends and interest this September than last. New York *Journal of Commerce* figures $480,000,000 will flow into investors' pockets this month as against $413,250,000 last September. The increase is chiefly in larger dividends and extras to stockholders. Increased interest payments are only half as much.

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Gold Tide Rises

IMPORTS of gold in August were $15,121,000 less than any previous month this year, but over August, 1928 or 1927. Net imports this year to date: $211,178,000. Last year to date, a net export of $428,684,497.

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How Deep Are Blind Pools?

THE last week of August saw a sharp drop in new financing in the New York market, $61,066,000 as compared with $214,207,500 the week before, according to *Journal of Commerce* figures. There were only $6,691,000 worth of bonds—the third smallest in several years—mostly state and municipal. Not a foreign bond in sight this week. State and local governments have had to come into the market for money, despite the higher rates, because public improvements in many cases cannot be longer postponed. The total of this class is larger this year to date than last. Public utility issues are more than $400,000,000 less than last year since January first and foreign bonds slightly more than half as great.

Investment trusts dominate the new financing. Out of a total of $383,927,000 worth of stock offered in August, $381,297,000 consisted of investment trust financing. Nearly two thirds of the total new financing in August was in stocks of financial companies. Since January first new offerings of stock ran between two and two and a half billions, of which between a billion and a billion and a half was investment trust paper—fully half of the total.

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More Juice, Less Money

LIGHT and power enterprises sold 13½% more kilowatt hours of electricity in the first six months this year than last, but revenues these consumers paid increased only 8½%.

On the basis of light and power consumption the National Electric Light Association figures the average condition of business activity in the first half of this year was about 10% above "normal," as compared with only 5% above in the first six months of 1928.

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Go West

THE number of employees in 700 establishments in California increased 12.3% this July over a year ago. Payrolls were 13.3% higher.

Burroughs

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Taking the Fear Out of Flying

What the Aviation Industry is Doing to Remove the Hazards from Air Travel

"—DIE IN PLANE CRASH"

SUCH headlines arrest attention in every day's paper. Maybe the pilot had a skinful of gin; maybe it was a student flyer with more ardor than skill; maybe it was a plane which, according to the government classification, should never have taken the air at all. Maybe it was an "act of God."

These "ifs" do not affect by a featherweight the large and fatal fact that some persons went up in a plane and were killed. Monotonous repetition of such dispatches hammers into the consciousness of men and women that flying is a dangerous business and creates a fear which certainly is the heaviest drag on the development of the aviation industry. The dramatic and arresting quality of the disasters counteracts the announcement of safety devices and discounts clean records in flying.

Removal of this fear factor from the mind of the public is being gradually effected. By the last day of October some builder will be richer by $100,000 in cash and about a million in advertising by winning the Guggenheim prize for safe aircraft.

THE competition is sponsored by the Daniel Guggenheim Fund for the Promotion of Aeronautics. Besides the first prize of $100,000 there will be awards of $10,000 each for the first five entries which satisfy the basic requirements. There are eleven American entries, one Italian, three British.

One of the last is the Cierva Autogiro (invented by a young Spaniard) which obtains its lift from a large horizontal windmill just above the pilot's head. The American company which owns the autogiro rights will have a second of these machines in the tests. (Fantastic in appearance, this helicopter can rise at a very abrupt angle and descend with the same directness.) Most accidents are caused by gliding to bad landings or inability to rise promptly in taking off. It is hoped that the autogiro principle will cure these ills.

Of the nine requirements to be met, the majority have to do with landing and take-off problems. For instance, the plane must come to a complete stop within 100 feet after touching the landing ground; it must rise after a 300-foot run and clear a 35-foot obstruction 500 feet from its starting point; it must take off and land on a plot 500 feet square surrounded by a 25-foot obstruction.

FOR once slow motion rather than speed is sought. The Guggenheim prize winner must be able to throttle down to 35 miles an hour.

The English Handley-Page is entered with the famous slotted wing device which prevents the deadly stall in the take-off. Two important British firms, Vickers and De Haviland, withdrew after entering the contest, explaining that they were so busy filling orders they could not spare time for the competition.

How dangerous is flying anyhow? Well, it is by no means as hazardous as some people think. Up to the time this is written there have been two fatal accidents on regular passenger lines this year. A Maddux plane crashed in California when an army flyer stunted into it.

Traveling in planes of regular passenger transport companies last year, the chances were that you would be killed after flying 400,000 miles. (This figure is from the National Safety Council.) In other words, you should have flown as far as the moon and 161,000 miles beyond before suffering a fatal crash.

Actuaries of the National Safety Council publish the following interesting estimates of the relative dangers of travel in America last year:

There were 11,000 automobile passenger fatalities, or one death for each 27,000,000 passenger miles.

There were 724 persons killed riding on trains (passengers and trainmen), meaning one death for each 50,000,000 passenger miles.

Approximately 27,500 persons met death in all types of motor vehicle accidents, meaning one death for each 11,000,000 passenger miles.

THERE were about 6,100 persons killed in accidents arising from the operation of trains, or one death to each 6,000,000 passenger miles.

Three hundred and sixty-eight persons (153 pilots and 215 passengers), were killed traveling in transport planes last year.

Many Americans think that flying in Europe is much safer than in this country. The truth is that the hazards are about the same. There aren't many comparative figures, and what there are must be taken with generous sprinklings of salt. In 1925 in France there was a fatality for every 585,689 passenger miles; in Germany, a fatality for every 3,816,131 passenger miles; and in the United States there was no passenger fatality for the year. During 1926 the American record was a death for every 4,608,880 miles.

In steady old England you would think flying safer than anywhere else. Wrong. While figures for the above years are not available, the record in 1924 was a passenger death for every 133,714 miles.

The good showing of the United States in those particular years might only mean that there was very little air passenger travel in this country, while there was a great deal of it abroad. Present figures prove that aviation in America is becoming safer every year.

There are few mechanical faults ("bugs" the pilots call them) left in the best planes. Machines are now 75 per cent automatic in good weather; only 25 per cent of pilot control is necessary. There is much talk of the automatic plane. In reality, planes that are too nearly self-flying are not altogether desirable because they are hard to handle; they are headstrong, want to do all the flying themselves.

AS with the automobile and the radio, Americans have been slow

Photo by Arthur Gerlach

in accepting aviation but now that they have really taken to flying (thanks largely to Colonel Lindbergh) their development has outstripped all rivals.

Civilian-owned planes in the United States now number 8,177. (This is more than the total of automobiles registered in 1900.) In two years the increase in planes has been 200 per cent. Last year the Aeronautics branch of the Department of Commerce inspected and licensed 3,212 aeroplanes for interstate travel. Number of active pilots licensed, 4,940. Permits to students, 11,000.

The federal government has done excellent work. Its bureau inspects the design and manufacture of machines; inspects and grades planes so that you can tell the safe from the sinister; examines and passes on pilots; keeps an eye on schools, eliminating as far as possible the callous fakers who send unskilled boys to kill themselves and others. A special drive also is being made for more landing fields, both permanent and emergency. (We now have 500 airports; 50 are building and 400 more planned.) Some dozen states have enacted laws to control flying and others are falling into line. Present federal control exists only with machines used for interstate travel.

In the search for safety the Handley-Page Company recently announced a wing device which will aid the forward-edge slot in maintaining stability. The helicopter is coming along. Some progress has been made with a parachute which sustains the entire plane but the difficulty of storing such a contrivance, with the growing size of machines, limits possibilities in this field.

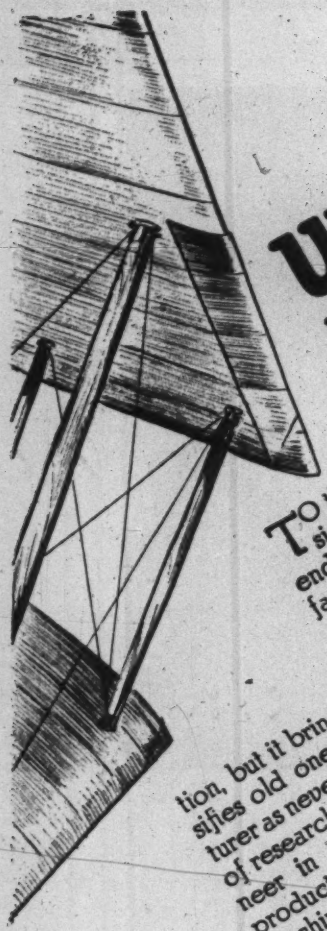
Individual parachutes have saved the lives of many flyers but you run into difficulties when you try to apply them to the passenger. The presence of a parachute strapped to a nervous person is a constant reminder of danger. Again, planes are coming more and more to closed accommodations so that getting out of a falling machine becomes more difficult. (Experiments have been successfully made with a seat that drops out of the fuselage, but this does not solve the problem of the casual air passenger making the proper count or pulling the ring correctly after he has left the plane.) In any case, a parachute can be worked only at a considerable height (since time must be allowed to clear the plane and to land). Low altitudes are most dangerous.

FLYERS will tell you the only answer is: "Better planes and better flyers."

Progress is constant. Already there are insurance companies which accept the risks of aviation. The rate is steep. For pilots the premium runs from $12 to $50 per thousand over his normal payments. Most companies now insure their flyers. The better ones get the best rates. (The T. A. T., operating transcontinental service in co-operation with railroads, pays $12 to $25 over the normal rate.)

Gene Tunney was insured for $500,000 when he flew to his bout with Heeney. Mr. Tunney's physical condition was all right. (Ask Heeney.) The policy was arranged in a few hours.

SINCE the *Graf Zeppelin* circled the globe these monsters intrude themselves into any discussion of aircraft. Air-shy persons are heard to remark, "I'd go up in one of those ships. You couldn't pay me to ride in an aeroplane." In the absence of reliable comparative statistics the Zep looks like the safer of the two forms. But if Zeppelin accidents are fewer, they are more appalling when they do occur. (Who can forget the crash of the *Shenandoah!*) Also a Zeppelin costs in millions what an aeroplane costs in thousands. They are flown and housed with the most tender solicitation. Such craft can be operated only by governments or by companies with huge financial reserves. Even if the navigators were inclined to be reckless with their own lives, the consciousness that the craft represented millions in money and years of labor would make them extremely cautious.



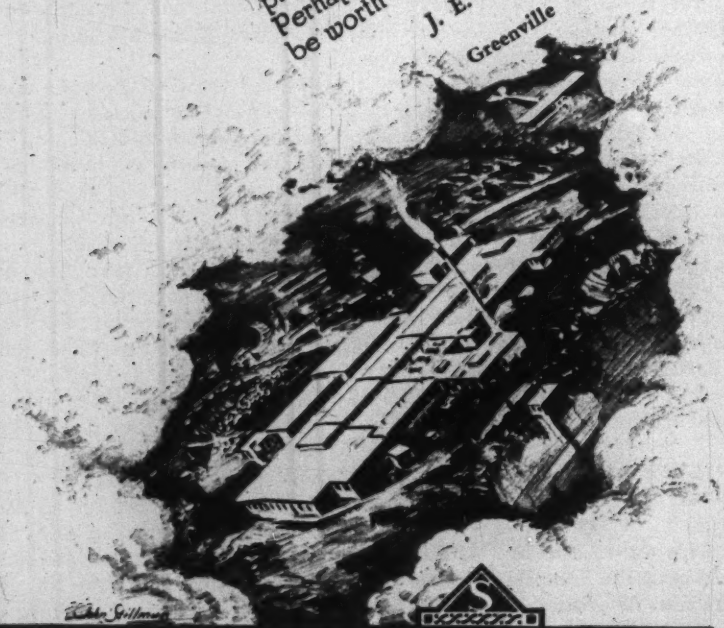
WHEN HORIZONS STAND ON END

TO the manufacturer also comes the illusion that industrial horizons are upended as markets and methods of manufacturing shift their positions.

This is the natural outcome of the urge for speed, for low cost and volume production, but it brings new problems and intensifies old ones which impel the manufacturer as never before to seek the guidance of research and the assistance of the Engineer in synchronizing all the forces of production through improved plant layout, machinery arrangement or reorganization and the co-ordination of all operations—even to items of labor policy handling and remuneration.

We have seen such a course lead to more profitable operation for some of our clients. Perhaps it would do so for you. It should be worth discussing.

J. E. SIRRINE & COMPANY
Engineers
Greenville South Carolina



ENGINEERING CONSULTANTS ON THE SOUTH

One Coal Man of Imagination

JAMES A. PAISLEY, whose two-billion-dollar coal project has lately been vibrating the stock of Pittsburgh Coal, has long been known in the Ohio and West Virginia coal trade as a man of vigorous imagination. During the War he bought a lake freighter, cut her in two, sent her down the canals and had her put together again for use along the coast. In recent years he has been adding to his coal holdings in West Virginia and Pennsylvania. His Connellsville By-product Company acquired one of the largest tracts ever transferred in the coal trade. Much of Paisley's business is in cargo coal shipped up the lakes to the Northwest and Canada.

Paisley and Frank E. Taplin, chairman of the Pittsburgh & West Virginia Railroad and opponent of the Van Sweringens in the Wheeling & Lake Erie, were for several years salesmen together in the Youghiogheny & Ohio Coal Co. of Cleveland. Frank M. Osborne, who was first president of Pittsburgh Coal, left the company a year or two after its formation and with his brother started the "Y. & O." company in Cleveland. He brought Taplin with him from Pittsburgh Coal, and Paisley joined him about the same time.

In 1910 Paisley left to form his Valley Camp Coal Co., of which he is still president, and in 1913 Taplin left to start his Cleveland & Western Coal Co. Both made money during the war and Taplin used some of his profits to buy the Pittsburgh & West Virginia and its mines, which he turned into the Pittsburgh Terminal Coal Co.

The Taplins—Frank E. and his brother Charles Ferrand—are continuing their opposition to the Wheeling's sale of its Cleveland passenger station to the Van Sweringens' Union Terminal. Repulsed in the Interstate Commerce Commission, they have brought suit in the Federal District Court in Cleveland on the ground that the Wheeling is receiving far too little for its terminal site and paying too much rent in proportion to its total passenger business.

▼

TRANSATLANTIC telephone service has extended to Ireland, including Belfast, Dublin, and the Isle of Man. Tolls are $46.50 for the first three minutes and $15.50 for each additional minute.

Farm Board Toils 'mid Swarming Pests

A YOUNG man wearing a flashy red tie and a noisy check suit appeared at the office of the newly-organized Federal Farm Board in Washington. The girl at the gate shaded her eyes and asked what he wanted. He wanted a job. Any qualifications?

"Sure," was the answer, "Plenty. I'm a vaudeville acrobat."

The applicant explained that he had heard they were running a three-ring circus in the Mayflower Hotel. He had come in person to market his handsprings. He is one of 11,000 who have asked for jobs since the Board was organized. Employes are being drawn from Civil Service despite the usual objection from Congressmen.

THE law makes provision for advisory committees. Members of such committees will receive $20 a day and traveling expenses when called for conference. Since the discovery of this item the citizenry of the nation has been swept with a flaming desire to confer with and advise the government. Multitudes scent a chance for a free trip to the Capitol with twenty dollars a day for hotel charges and picture post cards.

Special shock-absorbing mechanism is being installed to protect the Board from deep thinkers who have solved the farm problem in private and are willing to deliver their schemes to the government—for a consideration. They seek to deflect the activities (and millions) of the organization into all sorts of obscure by-paths. Some of them are more concerned with rescuing the skunk-breeding industry than in beef production. One stubborn protagonist demanded that rabbits be classified as live stock. Other zealots have been accepted as spokesmen for a certain industry until it was discovered that the only authority they could claim was their personal inclinations.

THIS situation has forced the inflexible rule that the Farm Board will deal with only one representative of one commodity. Even that isn't a perfect solution. The fight now is between different organizations for official recognition as the one authorized voice. Members are constantly being called from really important tasks to settle feuds between jealous factions and organizations.

Drawn by John Allen Maxwell

FARM BOARD HEAD

Alexander Legge, late of International Harvester

For years the tribulations of the farmer have been the excuse of ardent sympathizers who made a business of fighting his battles in Washington. These troubles were real, and naturally the farmer, like any sick man, paid those who promised panaceas. Farming the farmer became a leading activity among the publicity grabbers and committee baiters of the capital. It is the jealousies among the farmers of different groups and the associations representing them that are now being visited upon the heads of the busy Board members.

THESE complications coming on top of the harvest season and the legitimate demands of recognized groups prevent Farm Board members from adopting the leisurely habits of the typical Washingtonian. There are clocks in the offices but they are ignored. The Board meets at 8:30 every morning. The members take the half-hour allotted the government worker for lunch, but the hand that holds the sandwich often reaches for a wired report or a table of figures. Afternoon hearings are scheduled up to 5 o'clock and often run until indignant wives begin 'phoning. Night sessions are frequent.

Everyone was surprised to discover that only one-third of the nation's food growers is enrolled in co-operative organizations. Even then there is widespread duplication and antagonism.

IT is impossible for board members personally to educate farmers to the sweet uses of the new law. Members will continue to attend and speak before large assemblies of co-operative organizations which can help spread the word. Thousands of other invitations for speakers are being received and declined weekly. Machinery is being set up whereby activities will be broadcast through press and radio.

It has been repeatedly asserted by doubters that the Farm Board can do little to help agriculture. It is true no miracles need be expected, but it is becoming increasingly apparent that shrewd application of government millions can help.

AS this is written the Board has authorized less than $15,000,000 in loans. This money goes to the growers of citrus fruits, of cotton and of raisins. Each loan is safeguarded, so it cannot be used to stimulate competition within a commodity group. Appeals for funds, however, have come from every quarter. Representatives of the long staple cotton growers have the distinction of being the only ones who have announced that they have all the credit they need and have no thought of applying to the Board for funds. They did come to Washington, however, to seek the advice of the Board in connection with their marketing problems. This is startling. Most of the applicants have an intense desire for funds, but are reluctant to admit they could possibly profit by advice.

Pennsylvania locomotives take water on the fly, from tanks set between the tracks. An air-driven scoop, operated from the engine cab, plunges down as the train roars over the tank. The water, speed-driven, is funneled upward into the tank of the tender. Such track tanks were early installed in this country by the Pennsylvania Railroad. In the course of a year they save, for industry and for travelers, an enormous amount of time.

$50,000,000 to get pure water for the delicate stomach of the Iron Horse

YOU can drink water that would kill the Iron Horse. Those snorting giants that drive with such relentless power along the rails have stomachs more delicate, in some respects, than a baby's. The wrong kind of water gives them, so to speak, acute indigestion.

In the mining districts, for example, sulphur water from the mines flows into nearly all streams.

When a stream polluted with it becomes slightly acid, it may still be used without apparent harm as a source of drinking water, but it would be very destructive to locomotive boilers, rendering their practical operation impossible.

In other districts the water is "hard"—contains calcium and other salts. When converted into steam it leaves a residue which coats tubes and boiler lining. Before long the locomotive loses power; if the coating continues, there may be an explosion which will mean loss of life and the finish of 500,000 pounds of expensive machinery.

•

Water free from calcium salts and from sulphur compounds must often be piped from long distances to the railroad. Great reservoirs in the mountains, treating stations west of Pittsburgh, wells near Washington, all form a part of the huge water system of the Pennsylvania Railroad.

Properties valued at $50,000,000 are included in this system. Twelve water companies are operated by the railroad under the general direction of a separate organization, employing engineers and chemists whose sole duty is to look after the water supply. One alone in the Pittsburgh district operates a large plant with 145 miles of piping.

All because the Iron Horse must have pure water.

It gets it—in all about 100 million gallons a day!

And the water is pure—fit for a locomotive to drink. In no other way can the trains go through swiftly, safely and on time.

PENNSYLVANIA RAILROAD

Carries more passengers, hauls more freight than any other railroad in America

All Eyes Are on the Crop Prophets This Month

AT nine o'clock Tuesday morning, Sept. 10, hurrying attendants will carry sealed packages of documents from a safe in a government building in Washington, D. C., into a large room in which a number of men will be seated around a table. Windows of the room will be locked, the shades drawn and sealed. When the documents have all been deposited upon the long table the doors will be barred, and guards will be stationed outside. Telephones and buzzers will be disconnected.

But why all this secrecy? Is another war imminent?

No, just this—on Sept. 10 the regular monthly crop report will be issued by the federal crop reporting board, and these elaborate precautions will be taken, as they are every month, to prevent any information leaking out in advance. The forthcoming report will be by far the most important of the year, for it will be the first to contain even fairly accurate figures on the grain crop.

Ordinarily the August reports are the crucial estimates, but this year the August figures were vague and unreliable, largely because of a dry season which ravaged the standing grain in the west, the northwest and Canada. The first intimation of an impending shortage came in early July, and was immediately followed by a tremendous jump in prices, wheat alone advancing fifty cents a bushel. Since then the market has been decidedly feverish.

The September report, however, will definitely settle the question and determine the trend of the market, which has been further complicated by the fact that farmers have taken advantage of the high prices and have rushed their winter and holdover wheat into the market faster than ever before.

The methods of the federal crop reporting board in collecting and making public its estimates are as simple as they are effective. Data from 250,000 correspondents in the 3070 counties of the United States are kept sealed in an unassembled form until the board convenes on the day the report is to go out. A penalty of $10,000 fine, ten years' imprisonment, or both, threatens anyone connected with the crop reporting service who divulges information.

THIS sharp-toothed law is the result of a scandal that took place in 1905, when it was testified in court that a then associate chief of the bureau, in collusion with a cotton brokerage firm, had in a single deal made $72,000 for himself alone by giving out information in advance of official release.

Economic history reveals that variations in supply of leading farm crops account for approximately 90% of the changes in their average annual prices. The federal crop reporting board attempts, as nearly as it is humanly and statistically possible to do so, to remove uncertainties by publishing what the supplies of crops are going to be. This monthly report is usually regarded as the one most authoritative crop report in the world.

But crop reports, like the crops themselves, are at best uncertain things. The government report is seldom more than 5% off and usually less than 3%. But it is always off a little.

CONSIDER, too, this strange fact—a June estimate of 82% crop often forecasts a smaller yield than does a September estimate of a 77% crop. How can that be?

It is due to the fact that misfortunes which are only possibilities at the beginning of a season may become realities as time goes on. Government figures are the composite and properly weighted opinions of a quarter million men, mostly farmers. Human nature tends toward optimism. Thus, in the case of spring wheat, a June 1 estimate of an 88.4% crop, a July estimate of 82.6%, an August estimate of 72.4%, and a September estimate of 70.1% are identical, judging from averages for ten years past. All forecast an average yield of 12.3 bushels per acre, which is what the average yield for the last ten years has been.

The American Steel and Wire Company, the subsidiary that sells most farm fencing for the United States Steel Corporation, made an interesting discovery of a similar nature. As do many concerns, American Steel and Wire attempts to supplement government and other published crop reports with information gathered firsthand through its own organization. Several years ago its crop reports were sent in weekly by traveling salesmen. But human weaknesses were too evident.

If a man had had an unusually good week, it was found he saw thriving crops wherever he looked, and so reported

To *stockholders of* Close Corporations:

Are you confronted with this weak spot?

WHAT HAVE YOU DONE to assure the heirs of each stockholder of your corporation the full predetermined value of his stock holdings?

WHAT HAVE YOU DONE to provide for the purchase of the shares of a deceased stockholder by the remaining stockholders, to prevent the reduction of working capital?

WHAT HAVE YOU DONE to prevent the introduction of unknown, outside interests in your business by the open market sale of your corporation stock held by a deceased stockholder?

• • • •

THESE questions are very pertinent to the continued success of your business. Realizing this, The Equitable has a plan to remedy this close corporation *weak spot*. Send today for our booklet, "To Officers of Close Corporations."

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most optimistically on the evening when his report was due. If, however, he had failed to make a date with a favorite girl, or had failed to make sales several times in succession, then he observed that the corn was burned up, the wheat choked with weeds, and the oats no good at all.

American Steel and Wire now gets opinions from dealers in rural communities, men who live there the year around and are less likely to be influenced by temporary ups and downs.

Figures issued weekly on Tuesdays by the Chicago Board of Trade, which maintains an elaborate statistical department, rate highly. The Canadian Department of Trade and Commerce and the Winnepeg Grain Exchange gather information with great thoroughness.

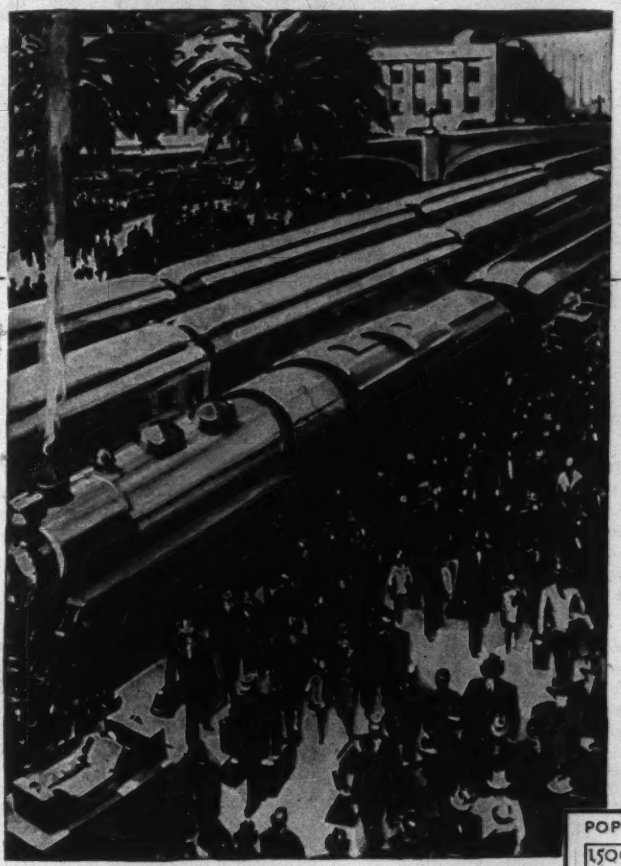
A NUMBER of large brokerage firms employ crop experts of note. Many of these men give out reports and estimates right after the first of each month, several days ahead of government releases. For example, Nat C. Murray, agricultural statistician for a prominent Chicago firm, who served for many years as head of the Federal Crop Reporting Bureau, has 2,000 handpicked correspondents, mainly men in the grain trade at receiving points. He gets his data from these men immediately after the close of the month and issues his estimates about eight days ahead of the government.

R. O. Cromwell, R. W. Kinyon, B. W. Snow, C. H. Donovan, George M. LeCount, likewise crop experts of high standing, all issue reports of one kind or another, more or less widely circulated in newspapers. These men travel widely.

Mr. Murray relates that, in November, 1926, he and the late George C. Bryant were just coming out of a wheat field in Southern Argentina. A man in a car going the other way waved to them. It was R. O. Cromwell. As Secretary of Agriculture Hyde recently remarked, "Conditions of crops along the open road cannot be concealed from experienced observers."

George Broomhall of Liverpool is the principal source of information as to crop prospects of the world at large. In his daily *Corn Trade News* (corn in England means grain), he reports figures gathered by a staff of correspondents scattered all over the globe. On Wednesdays he prints data of shipments from India and the Black Sea areas, on Thursdays from Argentina and Australia, and on Saturdays from North America. What Mr. Broomhall says affects world markets profoundly.

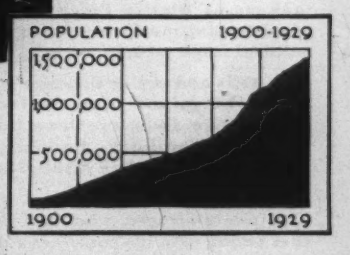
Industry follows population *to* LOS ANGELES COUNTY

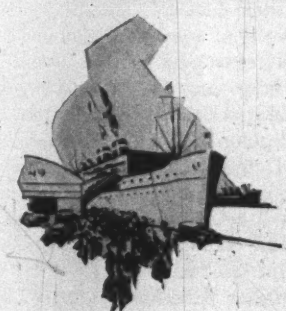


50%
of the Pacific Coast States' added

POPULATION

during the last 8 years, have settled here!





Population density has brought to Los Angeles County more factories, producing over double the output, than the next largest Pacific Coast County. With 40% of Coast population in Southern California, local industries enjoy a large home market, and economical distribution by truck, rail or water to Western States and foreign countries.

New industries will find: Adequate, contented labor; low building costs; good factory sites; low-cost power, natural gas and oil fuel and abundant water. Airplane mail and commercial service is more than one-third of the national daily total.

For specific information kindly address—

Industrial Department

LOS ANGELES CHAMBER OF COMMERCE

INDUSTRIAL LOS ANGELES COUNTY

WHY PAY FREIGHT

ON MACHINERY?

MANUFACTURERS in Piedmont Carolinas are beginning to ask, "Why should we pay long haul freight on all our machinery and supplies?

"We have apt and teachable help. We have an abundance of raw materials. And we have developed many lines of manufacture that require heavy purchases of machinery. Wouldn't we rather purchase 'close by' and save heavy freight bills?"

Already a healthy start has been made here. Machinery and supply manufacturers who have located here have busy factories and no serious competition from outside.

Particular advantages are offered makers of textile machinery, woodworking machinery and agricultural implements.

How rich and active this market is may be gained from the fact that in one industry alone the Piedmont Carolinas' machinery *freight* bill reaches $500,000 yearly.

The manufacturer who divides that saving with his customer will meet little sales resistance.

Do you want the facts? Address Industrial Dept., Room 2530, Mercantile Building, Charlotte, N. C. Your inquiry will be answered promptly and courteously.

DUKE POWER COMPANY

SOUTHERN PUBLIC UTILITIES COMPANY AND OTHER ALLIED INTERESTS

Skirts Come Down, Trade Picks Up

WOMEN'S styles are changing. The change this fall promises to be the greatest in many seasons. The American manufacturer is jubilant; retailers are regaining their composure. For a moment Paris' place as a dictator of fashion was challenged; style trend was uncertain; the market was nervous. But the question has been settled and the well-dressed woman will demand a Patou, a Lelong, or a Chanel creation with the old assurance of being *en mode*.

It all started when American fashion experts returning from Paris with fall fashion hints, decreed long dresses, high waists—a curved silhouette rather than the long straight lines of several past seasons, and a reversion to the seductive mystery of covered knees, more concealment. Many in the trade predicted American women wouldn't accept the change. Manufacturers, wary of the whims of woman, held back; textile manufacturers — worried, hopeful — waited for orders. Few came.

Then came the news of the fire on the *Paris* and of the loss of a huge shipment of long, high-waisted models which were to be the basis of the season's styles for smart Fifth Avenue shops and West Side manufacturers.

SOMEONE suggested a fashion revolt. A few took up the idea. But they are beaten. Paris rules, as ever. New models have come, are coming. Smart shops are selling the new modes; manufacturers are convinced, are proceeding with more assurance.

In brief, to be *chic, en mode,* milady must wear her street dresses nearly five inches longer than last year, her tea frocks and evening gowns to the floor. There will be few ruffles or flares but the mere addition of five inches to the length of her dress will make a difference of at least two hundred fifty million yards a year to the textile industry.

With the high waist come new demands on undergarment manufacturers, corsetiers. Underclothing must fit around the waist, will be lengthened. With hems down, more stockings will be rolled and long garters will be passé. The trim waistline, one story goes, is cause for postponing the final steps in the dissolution of a corset factory "just to see" if fickle Dame Fashion can stave off receivership. More girdle and more girdles can revive an $80,000,000 industry.

What about legs? *Vogue* says women will wear hosiery—sheer silk hose. The welfare of a billion dollar industry is assured for another season.

Next to the textile manufacturers, dressmakers (almost an obsolete institution since 1918) are expected to profit most from the new fashions. Bendel and Carnegie see in richness, finish, expensive cuts, the *note distingué* of the new fashions. No longer will the maid and her mistress wear similar garments. Milady, to be smart, will be individually tailored. Victorian "class distinction" will again be evident in dress. Dressmakers should flourish; "Nothing-over-$39.50" dress shops will do well to look for new points of appeal.

In the same manner shoe manufacturers will profit in the demands for more skilled workmanship, more expensive finish.

OF all the accessories, gloves and jewelry will undergo the most radical change, and the one most beneficial to manufacturers. Long, pale pink or white suede is fashion's choice for evening wear. More than twice as much material is necessary for each pair of the three-quarters length gloves. Heavy jewelry of questioned genuineness has had its most popular day. Jewelers, not very busy since the days of highly ornamental bracelets and jeweled horseshoes, will flourish along with the dressmakers. Delicate, intricately designed beads and ornamental pins with genuine settings will be as essential to the modern costume as were the flowers and scarfs of the last two years.

No wonder American industry and all our distribution machinery has held its breath awaiting the clearing away of the battle clouds and those first shopping trips after women have returned from the beach. The primary interest of 85% of the retail buying power in America is the stake.

The only yardstick you can safely use . . . FIGURES

WHEAT is valued by measure, cloth by the yard, and coal by weight; but your business is different. Regardless of whether you build, barter or buy, FIGURES remain the only yardstick you can safely use to measure your business.

Figures assembled from hundreds of sources at machine speed, with machine precision will measure all phases of your business at one time and give you the latest facts from which to fashion the future.

You are getting figures of course, but how? Are they daily, accurate figures, obtained economically by modern machines, or are they slow, unreliable and costly?

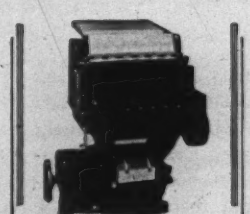
Remington Rand can help you. It gives you the combined knowledge of the leading manufacturers of accounting equipment. Remington Rand experts will analyze your accounting problem and offer an impartial solution. They will recommend, from over thirty types, the particular equipment best suited to furnish you with the necessary facts about your business.

The most complete adding and accounting machine service in America

WHEN you phone Remington Rand you go to Headquarters. Remington Rand service is complete in every respect. The machine accounting experts who will answer your call will give you the benefit of proven methods—tested on the world's greatest proving ground of business practice. Consult them, they will show you the method and means that you may get the FIGURES and profit by the FACTS.

DALTON
The Dalton "Super Model"—handles nine columns of figures imperturbably. Electrically or hand operated. Other Dalton models for adding, subtracting, bookkeeping, ledger and statement posting.

REMINGTON
This is model 23 with front feed of the Remington Line. Ledger and statements are posted at one writing. Perfect registration—proved accuracy.



POWERS
Powers Alphabetical Tabulator. Prints names and words as well as figures—from punched cards. Any accounting statement is more understandable—prepared faster—when Powers shoulders the load.

FIGURES - *The Yardstick of Modern Business*

Remington Rand

BUSINESS SERVICE

BUFFALO, NEW YORK

Jolly Wine Grapes Roll Eastward to Market

ON Tuesday, September 3, the smack of a gavel in the hands of a coatless auctioneer began the sale of the 1929 wine grape crop. The grapes hail from California vineyards, which produce 90 per cent of the nation's total. Crossing the continent in fast freights, a heavy percentage meet their fate in the auction rooms of the Pennsylvania Railroad's Manhattan Produce Yard. The Pennsy put $1,500,000 into this terminal to take care of the huge grape shipments that swamped the Eastern yards after prohibition became a (legal) fact.

Officially this is the juice grape crop. "Juice grape" sounds better than "wine grape". No one harbors any delusions as to its ultimate destiny. In the old days grapes were delivered to wineries in California and marketed in the bottle. Now the grapes are shipped to the great population centers and made into wine by the buyers.

Happy concurrence of events has cheered the heart of the grape grower. Spring frost nipped the vines, cutting the estimated 1929 crop to 70,000 cars. Last year 86,000 carloads were shipped from California. Purple-black Alicantes that sold last year for $2.50 a lug hope to fetch $2.60 this year. Honey-colored Muscats that sold as low as 60 cents a lug last year ought to bring $1.65 this fall. (A lug is a crate weighing 26 pounds.)

THE singing hearts of grape ranchers vibrated in still higher key when they received the recent announcement of James M. Doran, prohibition commissioner. Just before boarding a Pullman for a personal inspection of the California situation Mr. Doran said soothingly: "We want to protect the grape industry; that is one of the reasons for the recent order permitting home manufacture of cider and fruit juices non-intoxicating in fact."

Formerly the government allowed the making of 200 gallons of wine by each family. Mr. Doran has now removed the limit—which was never effectively enforced. While reassuring the cellar vintners, he declares that the government is going to prevent the grapes from being absorbed by illegal wineries.

The causes of this announcement run back to the last presidential campaign. Smith supporters let the grape growers of California get the idea that he would be very tender if elected and Hoover very severe. Administration officials are now making it plain that the Republicans contemplate no frightfulness against this important Coast product.

NOR was this all. The new Federal Farm Board has announced that in co-operation with certain California banks it has arranged for a $9,000,000 credit to aid California organizations handling raisin and other grapes. The Board will furnish half and the banks half. Organizations involved are the Sun-Maid Raisin Growers of California and the Federal Fruit Stabilization Corporation. The latter will handle the fresh grape problem. An advance of 3 cents a pound will be made to raisin growers, which is double the amount advanced last year through private financing.

Some 10,000,000 people dwell in the 35-mile circle of which New York is the axis. This market takes 30 per cent of the national grape crop. At first the Erie Railroad handled most of the grapes rolling into the metropolitan district, but the Pennsylvania captured the bulk of the business by investing in the new yard. This terminal is on the wide Jersey flats near the Hackensack River. Other perishables are handled here, but during the grape season which runs from early September to early December, all minor commodities must stand aside.

WHAT Wall Street is to the investment world, the Pennsylvania yard is to the grape business. It is a vast field of parallel tracks on which loaded cars are parked. Between them run narrow platforms. Each car is opened and samples of the grapes placed outside for inspection. Buyers are given long programs listing the cars to be offered on each day. They look at the grapes, make notes on their lists and later bid for what they want in the auction room.

The yard will hold 2,500 cars at one time. As many as 800 cars have rolled in between two sunrises. In a single train, this day's receipts would stretch almost five miles and a half. Pressed into juice it would fill 6,400,000 quart bottles.

Buyers are Italians and Jews in a fifty-fifty ratio. They have one great difference. The Italian grape speculator is always telling you how much money he is making; the Jew protests that it is a terrible business and that he is clinging to the brink of bankruptcy.

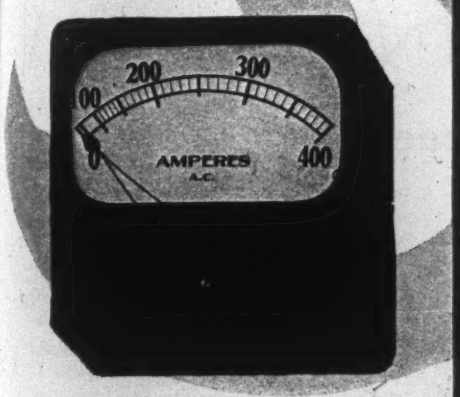
SO rapid is bidding that half a million dollars worth of grapes have been sold in an afternoon. To protect the bidders and the cashiers against bandits, no money changes hands at the auction. Everything must be paid by check.

Bootleggers never buy themselves. They commission speculators to bid in the grapes they want. At the yard a carload is the smallest sale that is made. Last year one man bought 225 cars of Alicantes at a single transaction. The only inference is that these grapes went to someone who is manufacturing wine in vast quantities.

The ordinary speculator buys two or three cars and has them shipped to a siding in his own neighborhood. There he sends word around and the families gather for the year's supply of wine. To cart away their purchases they come with toy wagons, wheelbarrows and even baby buggies. Perambulators became so numerous at the Manhattan Produce Yard that the railroad was forced to rule them off the grounds. Grapes that cost $2.50 a lug retail for $3.50 to $4.00.

Fast specials bring the grapes from California to New York in ten days. They are iced on the way so that when they arrive they are ripe and ready for the squeezing. A single lug represents, with the addition of sugar and water,

Buy Instruments as you would plat a curve



What Points have you established to guide you in instrument purchases?

HAVE you written specifications, the same as for other equipment, and have you gone thoroughly into every constructional feature and design consideration—necessary steps to the assurance of best performance?

Why do you plat a curve and how do you go about it? First, do you not establish certain facts by investigation and test—incontestable key points which, when connected in sequence, indicate a definite trend and enable you to arrive at a safe and logical conclusion?

Before you purchase any important equipment, particularly instruments upon whose dependability the efficiency and continuous performance of installed apparatus may rest, plat a curve—that is, establish your standards by means of a carefully considered specification.

How many years has the manufacturer been making instruments—what original discoveries and developments has he contributed to the art of electrical measurement—what standing has he achieved with the highest scientific authorities throughout the world—how comprehensive is his experience—how complete is his line and what quality does it represent—what faith can you place in it?

These are only a few of the significant questions to ask—*points* on the curve. Make certain that these points are fixed to your instrument operating satisfaction. Come to Weston—we shall be glad at any time to assist you in the preparation of your specifications.

WESTON RECTANGULARS

are the modern instruments for the modern switchboard. They are incomparable in their simplicity of construction—the ready accessibility of the movement for minor adjustment and inspection—their space economy; and their bold markings on a wide, open scale which assure clear visibility from all angles. They can be mounted on metal panels without special provision for insulation. The location of connection studs permits of standard switchboard drillings and interchangeability of instruments. Resistors are mounted externally on the back of the instrument, independent of the movement, affording a valuable protective feature.

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WESTON ELECTRICAL INSTRUMENT CORPORATION
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Could your business use an *extra month* a year?

Make Ediphones available to your office force and you will be amazed to see the staggering total of wasted minutes converted into hours of productive effort. Every average dictator gains a month a year. Secretaries also enjoy this time-gain because they no longer are obliged to write every letter twice (once in shorthand and once on the typewriter).

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World-Wide Service in all principal cities
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Radio Program Monday Evenings

two to two-and-a-half gallons of home-made wine.

Of 23,379 cars of California grapes sold last year in the New York district, 5,302 were table grapes—the varieties sold for eating. These staid clusters are separated from their boisterous cousins and shunted to New York piers where they are auctioned with less excitement and less noise. It is admitted that at least half of these grapes are made into wine.

EASTERN grape production has sunk to small figures compared to the California conquerors. Probably 400 cars of Concords will be shipped this season, most of them going westward to Pittsburgh, Cleveland, and neighboring cities. Italians are the heaviest grape buyers. They prefer California varieties which are mostly transplanted from the hills of Italy.

The multiplication table and a pencil give you some staggering figures if you try to visualize how much wine is made annually in legitimate cellars and hidden wineries. About 60,000 carloads of grapes, containing 1,000 lugs each, went into wine last year. Estimating each lug at two-and-a-half gallons, you arrive at the astonishing total of 150,000,000 gallons. This, remember, is only one year's squeezing of California grapes. It does not take into consideration wine made on the home ranches, grapes from other states, nor fermentations from dandelions, elderberries, and so on.

Contrast this 150,000,000 gallons of wine produced unostentatiously last year with the 55,300,000 gallons of domestic and imported wines consumed legally during the wet year of 1913. I'm not sure just what you get out of the comparison. Maybe just a headache.

The Week's ▼ BUSINESS ▼ Speeches

GEORGE J. MEAD, of the Pratt and Whitney Aircraft Company, at a Milwaukee conference:

"The usual cost of $18 per horsepower for airplane engines is much lower than for marine steam and Diesel engines, which is more nearly $135 and $145 per horsepower. The locomotive is listed as costing $20 per horsepower, including the tender. The miles per overhaul of the aircraft engine are 30,000 to 50,000, compared with 30,000 for marine engines, 100,000 for the locomotive, and 10,000 for the automobile."

▼

I would much prefer to sell something that is better than it looks than to sell something that looks better than it is. —F. C. Rand, long time president of the International Shoe Company.

▼

"ECONOMIC slavery is as great an injustice, as cruel, as any political slavery ever established by man; and if, by the combination of vast amounts of wealth, the economic, the political and the social functions of our race are controlled and dominated by those who own the combination, then those who are controlled are, in reality, slaves.

"The rivalry of nations, controlled by men desirous of making money through trade and commerce, has resulted in the establishment of huge armies and in an international race for larger navies. If we could take the profit out of war we would have taken the greatest possible step toward universal and international peace."—Senator George W. Norris.

▼

Every man pays for the amount of bossing he requires, and likewise every man's wages increase in proportion to his ability to act as a boss or foreman of himself and others. The lower the wage rate, the greater the amounts of watching and direction constantly required. The highest wages are paid to the man through whose ability the largest number of other men may be profitably employed.—Alfred Kauffman, president, Link-Belt Company.

▼

FRANCIS KEALLY, terminal architect and engineer:

"Airports for business men must be close to the great centers of population, while suburban airports should be 100

to 200 miles distant. The airplane will increase the commuting distance, and territory within a radius of about 200 miles of great cities will be developed to a high degree.

"A system of air taxis probably will be developed to distribute passengers arriving at the city airport in transport planes carrying 10 to 25 passengers. The taxis will carry the passengers 10 miles or more from the airport to roofs of large warehouses or landing stages built over railroad switching yards in the heart of the city. Pneumatic mail tubes connecting these landing stages with the main post office will result in the speedier delivery of air mail."

▼

Banking is not as personal as it once was. I remember when we thought that if a customer belonged to the same church we did he was a little better moral risk.—C. W. Boyden, one-time president of the Illinois Bankers Association.

▼

HENRY FORD, interviewed by B. C. Forbes:

"If all the men over 50 got out of the world, there would not be enough experience left to run it.

"It is a curious phase of human nature that when men make a great deal of money in some line of work they want to get into something they don't know anything about. It may be another line of business, it may be sport, or as more often happens, it may be society.

"The accumulation of money seems to unsettle men, making them dissatisfied to keep on doing the useful things they were doing and which brought them their financial reward."

▼

I believe success is 95% luck and 5% ability. —Julius Rosenwald.

▼

GORDON C. CORBALEY, president of the American Institute of Food Distribution:

"Experience is something gained in the past and is the natural handmaiden of conservatism.

"The conservative is the stabilizing influence that accumulated capital naturally places in control; but a conservative feeling his way through these days of changing methods in distribution is in danger of following the paths that lead toward the morgue. The road ahead is so barren of maps that the man who will not venture has difficulty in going ahead at all."

Have you a Pacific Coast Sales Problem?

This successful selling service may be the answer. ¶ Includes trained sales direction and personnel—receiving, warehousing, shipping—dealer merchandising and display. ¶ All credits assumed—Sales discounted monthly.

• • •

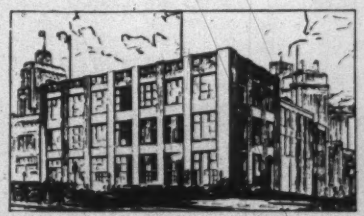
It may be possible for you to meet the new distributing and marketing conditions, without changing your business policy, by utilizing this independent Pacific Coast sales organization.

Thus you could cover the 10 Western States and Hawaii thoroughly, conducting your selling, merchandising and dealer advertising program free of all detail *and at a controlled cost.*

Your campaigns would be guided by the *localized* knowledge and records accumulated during 38 years' experience in this rapidly-growing regional market.

We contact approximately 16,000 wholesale, retail and chain outlets: drug, hardware, jewelry, stationery, leather goods, sporting goods, department and general stores.

• • •



EBERHARD BUILDING, SAN FRANCISCO
Steel and concrete. 20,000 sq. ft. floorspace. Owned and exclusively occupied by this company.

For many years we have served four nationally-known firms—the manufacturers of AMITY LEATHER PRODUCTS, INGERSOLL WATCHES, GEM SAFETY RAZORS AND BLADES and WATERBURY CLOCKS.

Recently we conducted a successful campaign, introducing Gevaert Films on the Pacific Coast. This suggested that, with the facilities of our new building, we could affiliate with another substantial manufacturer.

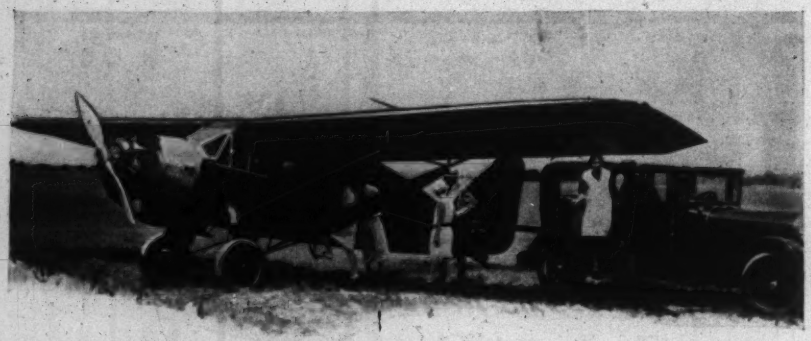
Realizing that a permanent connection requires careful investigation, we invite inquiries from interested executives, and shall be glad to correspond regarding details.

THE GEO. H. EBERHARD COMPANY
[INCORPORATED 1891]
SELLING AGENTS
290 FIRST STREET
SAN FRANCISCO

Division Headquarters

LOS ANGELES SEATTLE SPOKANE PORTLAND
BUTTE EL PASO SALT LAKE CITY

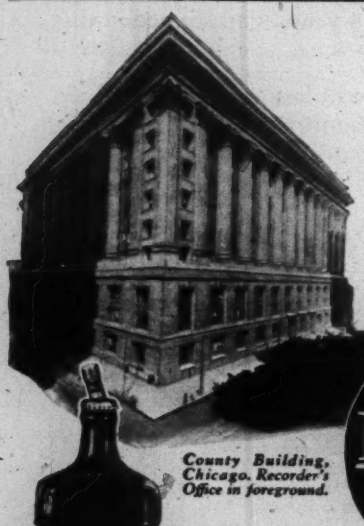
129-A



Why owners of fine cars choose the Bellanca monoplane

Motor cars and airplanes have at least this much in common—only the utmost craftsmanship can interest the owner whose discrimination comes from experience. The Bellanca CH 300 six-passenger monoplane is chosen because it is built to supreme standards of engineering and finish. On these standards alone can Bellanca provide such extraordinary performance—high speed, 145 m.p.h.; payload, 1235 lbs.—with a structural strength and finish that mean incomparable safety and luxury. On wheel gear, or equipped with floats as a Seaplane, the sturdy Bellanca achieves for you a dependability and distinction that is indorsed by its success as America's finest airplane, not only in its daily service but also in the National Efficiency contests won, the world endurance records broken, the transatlantic flights from New York to Germany—from Maine to Rome. Bellanca Aircraft Corporation, New Castle, Delaware.

BELLANCA AIRCRAFT



County Building, Chicago. Recorder's Office in foreground.

INK that FADES

—Has NO BUSINESS in Business

Important Records are Usually Written with

Writes Bright Blue Turns Jet Black NEVER FADES

SANFORD'S PREMIUM WRITING FLUID

"The Ink That Has Defied Time for 70 Years"

Joshua Cosden Comes Back

WALL STREET notoriously rehabilitates its more brilliant victims. Why shouldn't it, cries the cynic! They will return for another fleecing! But he is wrong again, this business cynic. Wall Street wants everybody to win, nobody to lose. Besides, the spectacular losers who are jerked back to their financial feet are no ordinary ticker-fascinated lambs. Why?

Their adventurous and audacious failures make them real creators of new wealth. Their optimism has simply overshot the mark. With failure they mature in judgment.

Joshua Cosden struck oil in Texas twenty-five odd years ago. When he came to New York he brought fifty million dollars with him, fruits of his toil in the then young mid-continent oil field. He ventured into finance, set out to be a great oil man, a national figure. He had a house on Long Island which was a show-place among show-places. His winter palace at Palm Beach was equally magnificent. The Prince of Wales put up at the Cosden castle when he came to Long Island to see his country's polo players beaten by the American four. Then suddenly, in 1925, at fifty, Oilman Cosden lost fifty millions. Cosden & Co., reorganized, became the Mid-Continent Petroleum Corporation. Its creator had been forced out by the bankers who refinanced the sinking concern. Cosden went back to the oil fields from which he came.

Cosden returned to Wall Street three years later to tell the bankers of some good producing properties in Texas which could be bought cheap. The bankers gave him a $3,000,000 cash grubstake, on past performance. They received preferred stock in his new company, the Cosden Oil Company, as well as a bonus of common. The revived promoter could take no preferred for the excellent reason that he had no money. But he got a contract from the bankers whereby he was to receive one share of common stock for every other share of common issued. He was to run the company for nothing, a president without precedent, at not even one dollar a year. That was a year ago last February.

Cosden common now is quoted around 98 on the Curb, up from 45 since the beginning of the year. Cosden of Fort Worth has come back. The bankers had guessed their man right.

NORTHWEST AT 125 MILES AN HOUR!

Features of Ford Plane

All-metal (corrugated aluminum alloys)—for strength, uniformity of material, durability, economy of maintenance, and structural safety . . .

Tri-motored (Wright or Pratt & Whitney air-cooled engines, totaling from 900 to 1275 horsepower)—reserve power for safety.

Speed range—55 to 135 m. p. h. Cruising radius, 580-650 miles.

Disposable load—3670 to 5600 pounds.

High wing monoplane (single, stream-lined, cantilever wing)—for strength, speed, inherent stability, visibility, clean design . . .

17 *capacity* (including pilot's dual-control cabin)—Buffet, toilet, running-water, electric lights, etc.

Durability—No Ford plane has yet worn out in service.

Price, $42,000 to $55,000 (standard equipped at Dearborn)—Exceptionally low because of multiple-unit on-line production methods.

Air passengers entering Northwest Airways Ford plane at Cicero Field, Chicago. Time, 3 P. M. They will be in Twin Cities, after a smooth, safe, glorious flight, at 6.40 P. M.! Modern air fields line the entire route.

Above the Twin Cities after gliding high in the air across some of the most beautiful and romantic country in America.

SPEED is an important consideration . . . but it is only one of many reasons that have made the Northwest Airways one of the most successful transportation companies in America, whether by land or sea or air.

This service, flying the skyways between Chicago and Twin Cities, was inaugurated in 1926, and has been in operation ever since, carrying mail, fast express and passengers. *95% of scheduled flights were completed!*

Latest model Ford all-metal, tri-motored planes are now in regular service on the Northwest Airways. These big machines, with great reserve power, have three motors, developing 1275 horse-power! With twelve passengers and pilots, they can maintain a comfortable speed of over 100 miles an hour, and reach a maximum speed of 135 miles an hour. *With only one engine turning, each of these planes may extend its gliding range for many miles. Landing fields are always within gliding distance.*

All planes are delightfully furnished and decorated. Travelers are provided with every comfort, including a lavatory with running-water; so that this swift passage across the sky may be enjoyed in mental and physical relaxation.

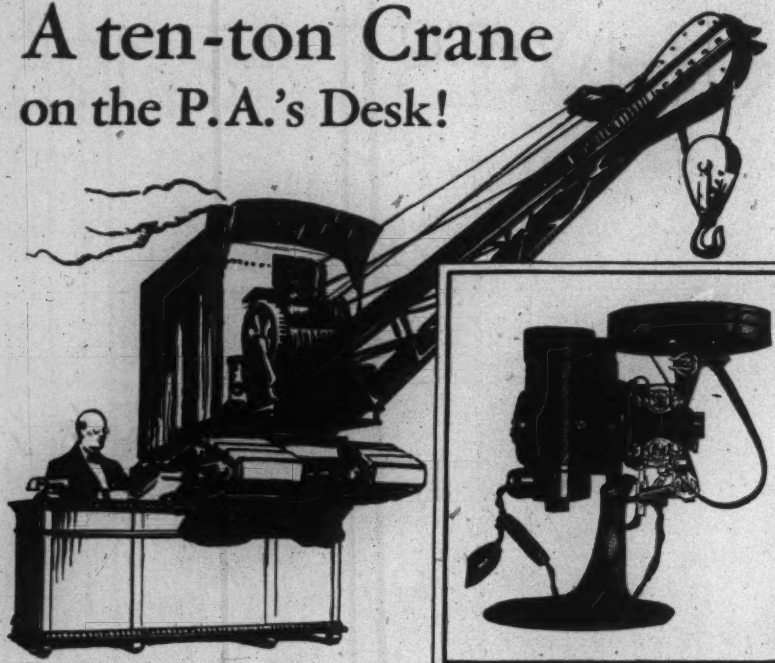
The Northwest Airways pioneered in the establishment of co-ordinated air-rail service in this country. Connection is made with six railroads, three of which operate from the West and Northwest and three from the East.

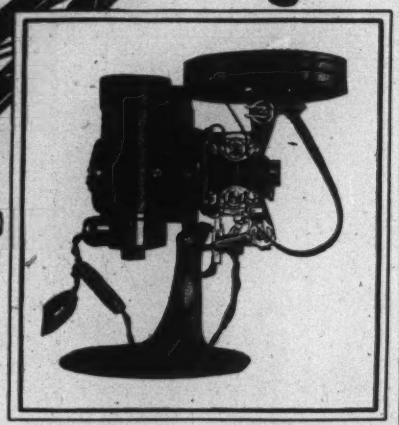
Ford all-metal, tri-motored planes have been put into service over this great skyway not only because the air-minded American public recognizes them as safe and dependable commercial air transports, but also because they have proved so highly efficient in all sorts of service.

Visitors are always welcome at the Ford Airport at Detroit.

FORD MOTOR COMPANY

A ten-ton Crane on the P.A.'s Desk!





Filmo Continuous Projector

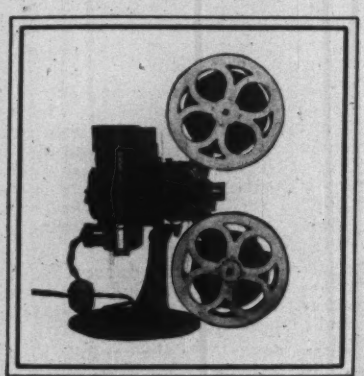
Filmo 57-X continuous projection attachment installed on regular Filmo Projector. Fully automatic. Special reels accommodate up to 150 feet of 16 mm. non-inflammable film equal to 375 feet of standard 35 mm. film.

. . . yes, almost literally, with the Filmo 57-C Business Projector. Light, compact, producing motion pictures of theater-clear brilliancy, it tells your sales story better, quicker, and more effectively than any other means known to salesmanship. Plug it into any 110 volt light socket, throw in the clutch, and it operates itself. For hammering home a sales point, it can be stopped for still projection of a single scene without damage to the film.

The new Bell & Howell Continuous Projector attachment converts the Filmo projector, in a moment, into an automatic continuously operating machine, showing a film over and over again without interruption and requiring no attention of any kind. For show-window or similar display projection, it is the greatest attention-getter and attention-holder devised. And it can be converted back for regular use in but a moment.

From tractors to toys, Filmo Projectors can sell or advertise almost anything manufactured. In industry it can do a job for your personnel and your public relations departments that a human can scarcely do.

Write to us for the leaflet, "Filmo Projectors for Business Use." It will point the way out of many problems.



Filmo 57-C Business Projector

The ideal projector for business use. 250 watt 5 ampere lamp, 45-50 strong condenser, variable voltage resistance and voltmeter, providing maximum illumination for showing sales films in offices, lodges, convention halls, etc. $240 with case. Other models $190 and up.

BELL & HOWELL

Filmo

"WHAT YOU SEE, YOU GET"

BELL & HOWELL CO., DEPT. I, 1819 LARCHMONT AVENUE, CHICAGO, ILL.
NEW YORK · HOLLYWOOD · LONDON · (B. & H. CO., LTD.) ESTABLISHED 1907

Jewel Tea Goes Rural

CONSTRUCTION starts next week on the new plant of the Jewel Tea company at Barrington, an Illinois village of 2,500, 30 miles northwest of Chicago.

Some four years ago Jewel Tea officials began to ask themselves: "Why a factory in Chicago? Why an office in the Loop?" Their answer was: "Convenience."

But whose convenience? Not employees', who had to spend from an hour and a half to two hours a day, traveling to the Loop.

The company has no contact with customers at its central office. So the only persons who really found the Loop convenient were the salesmen.

THE company deliberately set out to find a town of less than 5,000 people, within 50 miles of Chicago, at an intersection of the Belt Line railroad with another principal line—a town where, as President M. H. Karker put it in his address at the ground-breaking ceremonies in June, "our people might lead fuller lives, and have more time to live."

Barrington filled the bill. The company bought 211 acres of farm land at the edge of the village. Of this area 40 acres have been set aside as a triangular landscape park in which a beautiful five-story factory building is to be the only structure. Back of this park are residential subdivisions, in which 13 houses are already under construction by employees who have bought lots.

The company expects to move to Barrington early next year not only its Chicago factory and general office, but also certain departments of its Hoboken factory. A complete survey has indicated that costs of operation in the new location will be less.

JEWEL Tea's more than thirty years of business history is an interesting story. The company is a General Foods Corporation, though on a somewhat smaller scale. It offers a line of 164 packaged grocery items, which are sold direct to housewives from 1190 "wagons"—really Ford trucks—that travel over regular routes once in two weeks. Last year average sale per wagon was $277.68 per week, average sale per customer $1.44, profit on sales about 10%.

Two ex-Navy officials are principal executives, John M. Hancock, and Maurice H. Karker.

INTRODUCING *another typical* 100% MANI-FOLDER

THIS 100% Mani-Folder is representative of all Mani-Fold Men in his understanding and knowledge of the external and internal use of business forms in all types of companies. Mani-Fold men are trained and experienced in analyzing form-writing requirements and in adapting the use of Mani-Fold Continuous Forms specifically to an individual business.

CONTINUOUS MANI-FOLD FORMS

Nineteen years of "Form" experience! That is the record of the Mani-Fold Man above, who has spent eleven of these years with the Mani-Fold Company. With his previous experience as an invaluable foundation, he rotated from department to department within the Mani-Fold plant at the start, learning every phase of the production of Mani-Fold Continuous Forms. As was to be expected, he has been eminently successful as an outside Mani-Fold Man. Through his efforts, many prominent American companies have adopted the use of Mani-Fold Continuous Forms and realized substantial savings in expense and improvements in system. Among them, to mention a few, are J. D. Adams Co., E. C. Atkins Saw Co., Bobbs-Merrill Co., Delco-Remy Corp., Federal Glass Co., Fletcher-American National Bank, Indiana Limestone Co., The Burre Companies, Van Camp Packing Co. These firms, like all others using Mani-Fold Forms, have been brough six definite advantages: (1) 50% saving in time; (2) 20% to 100% less duplication of effort; (3) 95% productive time per operator; (4) 30% saving in carbon paper costs; (5) 25% to 100% improvement in appearance of forms; (6) Accurate registration of as many copies as are required. Write today for interesting literature.

THE MANI-FOLD COMPANY--13308 COIT ROAD--CLEVELAND-OHIO

DIVISION UNITED AUTOGRAPHIC REGISTER COMPANY; *Makers of Continuous Forms.*

Use margin below or your letterhead in writing for descriptive literature and sample set of Mani-Fold Forms.

WE solicit conservative margin accounts based on purchases of stocks listed on the New York Stock Exchange . . . Our facilities, resources, and experience, developed through forty years of service to traders and investors, are placed at the disposal of individuals having satisfactory banking sponsorship.

HORNBLOWER & WEEKS

ESTABLISHED 1888

BOSTON NEW YORK CHICAGO CLEVELAND
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Members of the New York, Boston, Chicago, Cleveland, Pittsburgh and Detroit Stock Exchanges and the New York Curb Exchange

CINCINNATI
Time Recorders and Job Clocks

Over 32 years the choice of thousands of leading organizations. More than 50 models. Factory branches in principal cities.

The Cincinnati Time Recorder Co.
Dept. M, York and Central Ave.
Est. 1896 Cincinnati, Ohio

Cincinnati Telechron Time Systems are entirely automatic. Plug into any A. C. socket.

This advertisement appears regularly in leading magazines to keep the name of this Company before you. Write for information.

Scott's Creeping Bent for Perfect Lawns!

Sod in six weeks. A rich, velvety stretch of lawn that chokes out weeds before they can grow! A deep, thick, uniform turf that's everlasting and that makes your home a beauty spot.

The New Super-Lawn

Instead of sowing seed, you plant stolons or the chopped grass—and in a few weeks you have a luxuriant lawn like the deep green pile of a Turkish carpet. Read all about this unusual grass in our illustrated booklet "Bent Lawns." Mailed on request. Fall is the best time to plant.

O. M. SCOTT & SONS CO.
472 Main Street Marysville, Ohio

Wide Reading

A Guide to Periodicals and Books

▼

HOOVER THE PRESIDENT. William Hard. *World's Work*, September. How Herbert Hoover is tackling the job of Chief Executive of the United States; his point of view toward the presidency; his methods of work.

DOES OUR TARIFF MENACE PEACE? Wickham Steed. *Independent Outlook*, August 28. The tariff may check the disarmament movement and quicken political rivalries. A blessing in disguise if it teaches Europe to stand on her own feet.

CONFLICT IN LEGISLATION ON RAILROAD RATES. *Harvard Business Review*, July. Discussion of the Transportation Act of 1920 and the Hoch-Smith Resolution. Why should agricultural rates be favored at the expense of other traffic? Has anybody ever found out what "fair value" is?

OLD AGE ON THE BALANCE SHEET. M. B. Folsom. *Atlantic Monthly*, September. Contrast of existing pension plans, analysis of a financially sound plan.

CRIME AS A PROFESSION. Raymond Moley. *Current History*, September, p. 146. An analysis contrasting the methods used by criminals in former generations with those of today.

PASSING OF THE SCIENTIFIC ERA. John Wright Buckingham. *Century*, August. Science as dogma has been weighed and found wanting. Its disregard of real human interests has brought it into disrepute.

A BUSINESS MAN'S VIEW OF RUSSIA. Charles M. Muchnic. *Harper's Monthly*, September. An American industrialist looks at the Soviet industrial system. He finds it good.

DO MANUFACTURERS NEED "RELIEF"? Sumner H. Slichter. *The New Republic*, August 28. He says "No"; supports his statement by statistical references to shrinking labor costs, rising profits.

A CLEAR PATH TO WORLD PEACE. James T. Shotwell. *Current History*, September, p. 162. The problems of disarmament and Anglo-American relations discussed from the standpoint of permanent peace.

ANACONDA COPPER MINING COMPANY. *Engineering and Mining Journal*, August 24. The entire issue is devoted to the activities of Anaconda and its subsidiaries. Twenty-six articles. Engineering technique described.

WHAT I BELIEVE. Bertrand Russell. *Forum*, September. International government, business organization, birth control, should make the world comfortable for everybody.

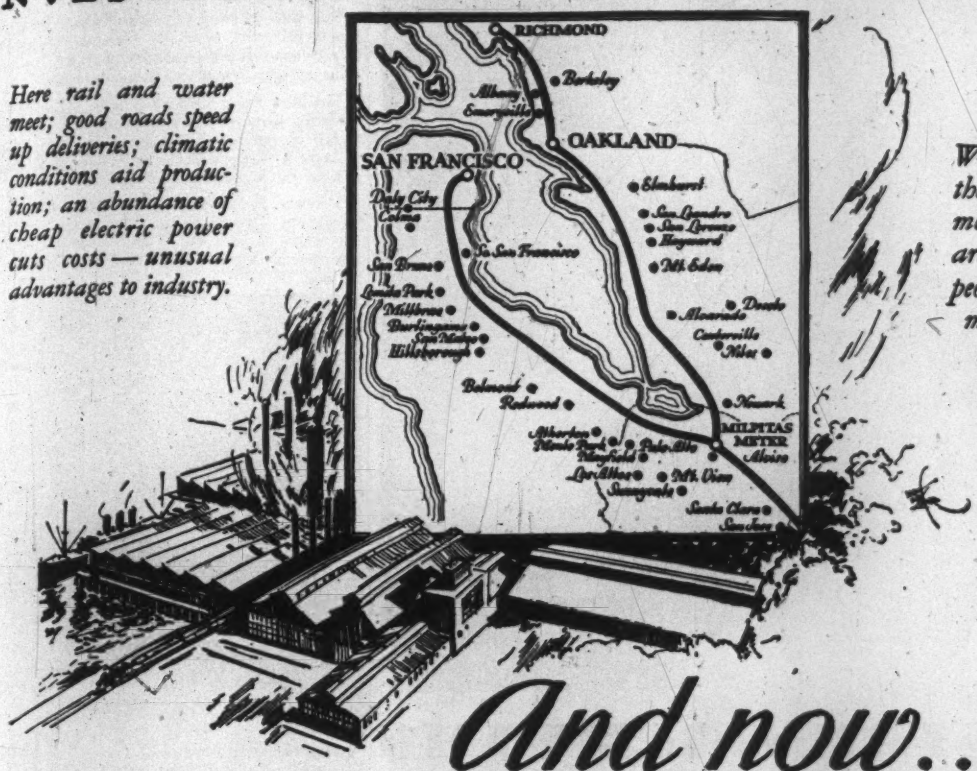
AMERICAN PLAYS IN THE EXPORT MARKET. Henry Albert Phillips. *Theatre Magazine*, September. Foreign stages show a shifting trade balance in drama as Europe clamors for more American plays. For the TBM interested in the stage—or whose wife wants him to be.

BRINGING THE FACTORY TO THE FARM. S. G. Rubinow. *Current History*, September. Effect of establishing industries in rural districts in relation to the problems of American agriculture.

IS THE FEDERAL RESERVE WRONG? David Friday. *Review of Reviews*, September. A lecture to the

INVESTIGATE WHY OTHERS LOCATE HERE

Here rail and water meet; good roads speed up deliveries; climatic conditions aid production; an abundance of cheap electric power cuts costs — unusual advantages to industry.



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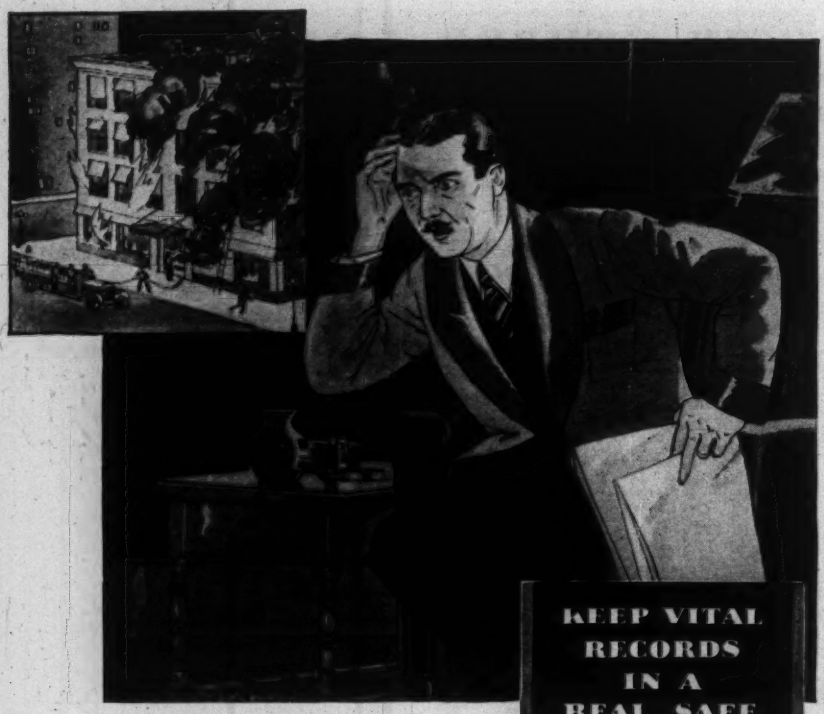

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Reserve authorities for raising the rediscount rate. Why did they raise it when, under same conditions in 1927, they *lowered* it?

THE BUS—A NEW GIANT IN TRANSPORTATION. Lewis Freeman. *American Magazine*, September. Chatty account of a cross continent bus trip, with alluring photographs of the *de luxe* bus.

THE NEW FRONTIER IN INDUSTRY. Middle West Utilities Company. Fascinating brochure outlining the strategic position of the small town in American industrial development, showing the trend toward decentralization.

MEXICO FACES THE NEW FUTURE. Ernest Gruening. *Current History*, September, p. 172. The story of how our great southern neighbor has emerged from a long period of revolutionary turmoil.

TEACHING THE GROCER TO GROCE. Thomas Russell. *Printer's Ink*, August 22. British grocers are the first to put their trade on a true professional basis. Oxford, Cambridge and the Bar "fail" a smaller proportion of their students than does the Institute in its rigid course of training.

EUROPE COMES BACK. Henry Kittredge Norton. *World's Work*, September. A summary of industrial construction in Europe since the Armistice.

THE MAKING OF TALKING PICTURES. Edwin W. Hullinger. *Current History*, September, p. 164. A simple, non-technical explanation of the mechanisms which have led to the latest developments in the amusement world.

AMERICA'S ORCHARDS FIGHTING RUIN. C. F. Wicker. *Current History*, September. The war being waged by scientific experts to prevent the destructive fruit fly from destroying one of the nation's great industries.

THE SOUTHERN NEGRO. H. C. Hix. *Factory and Industrial Management*, September. Superintendent of Manchester Terminal Corporation at Houston, Texas, looks back over years of experience handling negro labor and analyzes negro psychology as it affects the employer.

BOOKS

THE BANKING PROCESS. Robert G. Rodkey. Macmillan, 354 pp., $2.50. A clear, sparkling analysis, in simple swinging style, of our banking organization. Layman's guidebook to a complicated mechanism.

THE ROMANCE AND RISE OF THE AMERICAN TROPICS. Samuel Crowther. Doubeday, Doran, 390 pp., $5. The saga of the United Fruit Company and the building of an economic structure which may become the basis of stable government in the Caribbean.

WALL STREET AND WASHINGTON. Joseph Stagg Lawrence. Princeton University Press, 468 pp., $5. Violent attack upon the "cuttle-fish tactics" of the Federal Reserve Board and the thunderers of the Senate. Wall Street's side of the case expressed defiantly, indorsed by several financiers.

THE USEFUL ART OF ECONOMICS. George Soule. Macmillan, 250 pp., $2. Clear statement of contemporary economic problems for which neither reader nor author yet knows the solution.

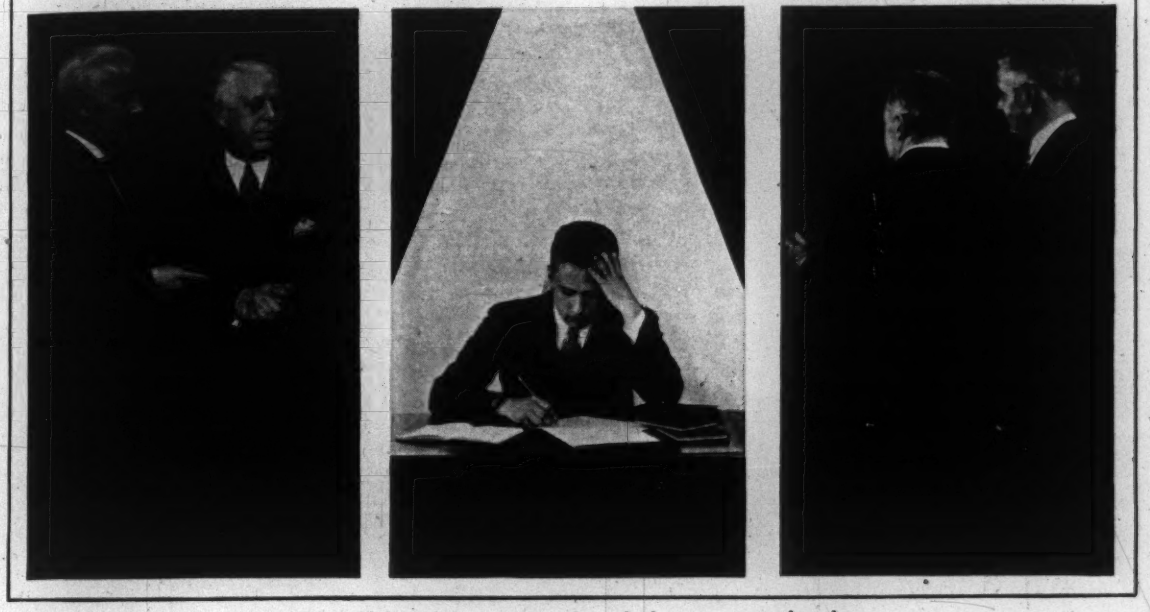
FEDERAL AID: A STUDY OF THE AMERICAN SUBSIDY SYSTEM. A. F. MacDonald. Crowell, 285 pp., $2.75. First-hand inquiry into the growth of the Federal Aid in local projects.

INTERNATIONAL ECONOMIC RELATIONS. John Donaldson. Longmans Green, 674 pp., $4. A treatise on world economy, and world politics. How interdependent all nations of the world are; the folly of protective tariffs.

CHICAGO. Charles E. Merriam. Macmillan, 305 pp., $3.50. The inside of the "Big Fix". Politics, crime, and civic corruption in kaleidoscopic view. Knows his Chicago.

GRAIN GROWERS COOPERATION IN WESTERN CANADA. Harold S. Patton. Harvard University Press, 471 pp., $5. Complete account of the background of the pool movement, with a descriptive analysis of pool operation to date.

The Business of Building Men



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These men take a just pride in directing the policies of the International Correspondence Schools. For among all the world's businesses there is none deserving greater honor than the Business of Building Men.

If you wish to know more about the work of the I. C. S. we shall be glad to send a booklet on request.

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Five Thousand Six Hundred Business Men Think—

THE average volume of general business in the country as a whole during September, October and November will be about 6% better than that at the close of August, and 5% over the same period last year.

All sections of the country will show some increase over last year—the South Atlantic section as much as 13%; Chicago, 8%. The increase in the East South Central and North Pacific Sections will be small—perhaps only 1%.

Canadian business in the next 90 days will run 3% above August-end, but about 15% above last year, in spite of short crops.

Agricultural conditions will turn out well because of the influence of the Federal Farm Board.

Continued low inventories and rapid turnover are favorable factors in the business situation, but instalment selling should be watched. The large volume of commodities covered by time-payments to retailers is a hidden inventory—dangerously large.

Employment and purchasing power are holding at a high level in manufacturing as well as rural sections.

Financial conditions are temporarily easier.

Tariff revision is a cloud over business. Until the new bill is passed a large part of American business will be marking time.

The Council on the Trend of Business

THESE are the high spots of the monthly report of the Council on the Trend of Business—a group of 5600 picked top executives in all lines of trade and industry in the United States and Canada.

These forecasting outposts send THE BUSINESS WEEK, every month, a statement of their opinion on present and prospective business conditions in their field, based on the current volume of inquiries by buyers, unfilled orders on hand, current sales and collections—and their feel of the business pulse.

The general public is speculating again. Last month stock market gambling increased in all parts of the country. It is an outstanding danger to business and financial stability.

Continued high money rates—particularly for mortgage money and rural credit—are retarding business.

The slump in building construction, excessive instalment buying—especially of luxuries and automobiles—and increasingly keen competition in the retail field because of chain store development are things to worry about.

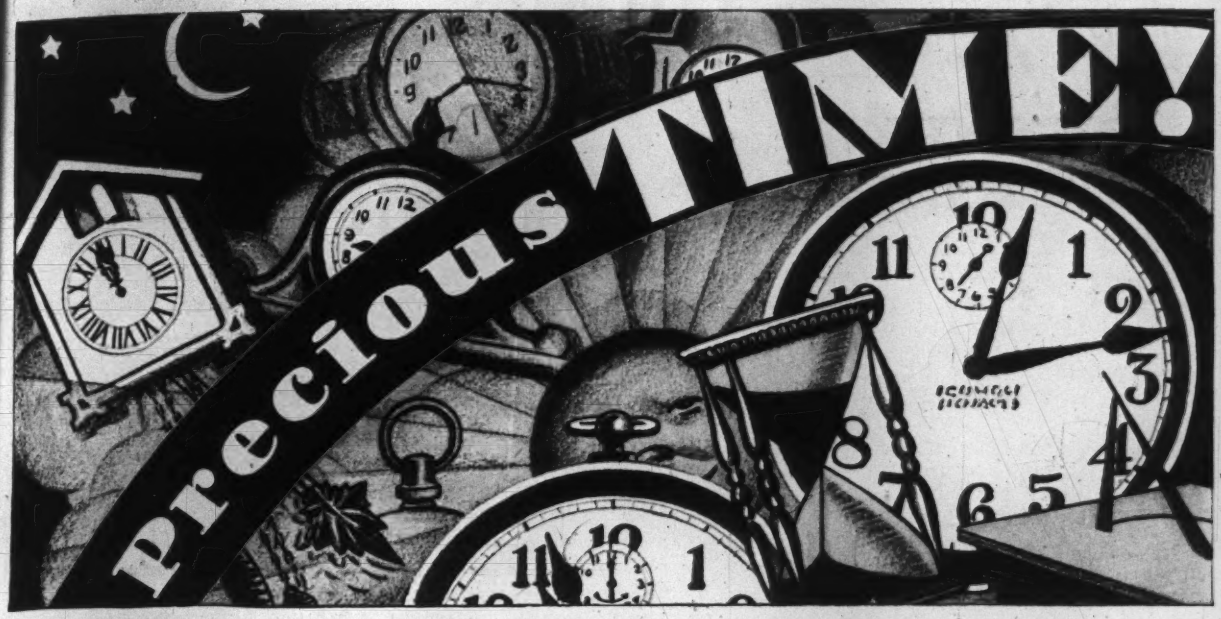
▼

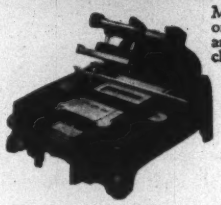
Seventy Years Old; But NOT Going Strong

THE petroleum industry was seventy years old on August 25. It is big and active. It is a little sick right now, but it looks good for a long life, if not always a happy one.

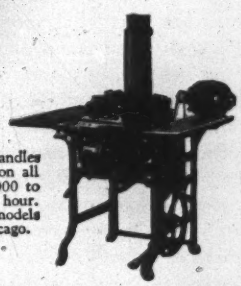
Born on August 25, 1859, at Titusville, Pa., on the farm of Colonel Edwin L. Drake and "Uncle Billy" Smith, the oil industry has revolutionized civilization. The industry is that new, but petroleum is not. It has been known for thousands of years. The Roman army marched over roads made of it; house builders in Babylon and Nineveh used it 4,000 years ago. The bold bad builders of the Tower of Babel also used it as a cement mixture, while it is supposed that numbers of ancient cities used it to light their homes.

The Titusville well marked the beginning of modern petroleum development. The mining of salt led to its discovery. Eruptions from salt wells bursting into flame first called it to attention. The urgent need for a new form of illuminant spurred on scientific analysis of petroleum, and disclosed its high adequacy. Once sold only as liniment, petroleum has grown to be the essential of transportation by land and sea and air.

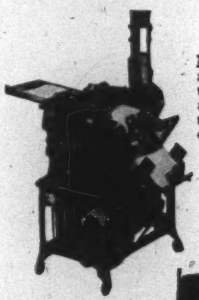




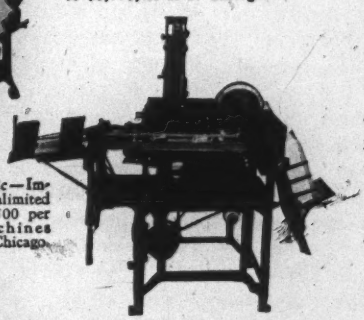
Model H-3 — $75. Imprints names or data, 1200 to 1800 impressions an hour! Other hand operated machines from $20 to $105. All prices f. o. b. Chicago.



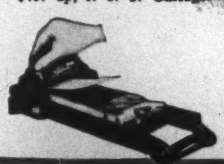
Model F-2 Electric — Handles names and data writing on all forms thru a ribbon, 2,000 to 3,000 impressions an hour. Electrically operated models $285 up, f. o. b. Chicago.



Dupligraph — Model D-3 — Leased at $65 per month. Prints 2,000 letters per hour, complete with name, address, salutation, date, entire letter and signature. Other models of duplicating machines sold at $57.50 to $1,770, f. o. b. Chicago.



Model A-4 Automatic—Imprints an almost unlimited variety of forms, 7,500 per hour. Automatic machines $485 up, f. o. b. Chicago.



Cardograph — $57.50 f. o. b. Chicago. Produces 1500 messages on post cards in an hour!

Making Minutes Produce Like Hours

SPEED is the order of the day in modern business — speed that gets things done in the shortest possible time, *without errors, at lowest cost.* Precious time *must* be saved! Slow laborious methods *must* give way!

Office "hand work" is a relic of a bygone age in business — a time waster, a profit eater. Yet in some concerns *hands* are still heading statements — writing sales letters — filling-in collection forms — imprinting factory job tickets — listing payroll forms—writing payroll and dividend checks—writing shipping forms — addressing wrappers — listing mailer strips — duplicating letters and office forms — and countless other tasks where names and data must be recorded.

Would you be interested in doing this work 10 to 50 times faster, at less cost and without possibility of error, as thousands of other concerns are now doing? Helpful advice and information will gladly be sent, without obligation. Just mail the coupon below.

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TREND and TEMPO

By Robert R. Updegraff

IT seems that business really began with the tolling of bells! In his latest book, *The Golden Age*, Lewis Mumford advances a curious theory as to the reason for the break-down of medieval culture and the dawn of the commercial era. He contends that the current theory that the wane of medieval culture came "with the Renaissance," is merely an evasion. "The first hint of change came in the thirteenth century *with the ringing of the bells,*" he says.

It seems that after years of domination by the church, when the emphasis was almost wholly on things spiritual and the chief concern of men was the timelessness of eternity, the bells tolled and the idea of time, or rather temporality, resumed its hold over men's minds. All over Europe the townsmen erected belfries to record the passing hour. Immersed in traffic or handicraft, proud of his city or his guild, the citizen began to forget his awful fate in eternity; instead he noted the succession of the minutes, and planned to make what he could of them.

It was an innocent enjoyment, this regular tolling of the hour, but it had important consequences, says Mr. Mumford.

Taking a long jump down the centuries, it was the American business man who discovered that "time is money." With that discovery a whole new conception was unfolded: minutes for sale.

Study modern business closely and you will find that it is built largely on materials, muscle, and minutes, and that minutes are today the controlling factor.

▼

NO news item of recent months has had quite the significance of a modest paragraph in the news of the holiday week-end: "The demand for air travel accommodations by Labor Day vacationists between Boston and New York was so great that Colonial Air Transport was obliged to provide service in extra sections."

Air travel in "extra sections" is a new phenomenon in American transportation—but one that will within twelve months lose its novelty and be a commonplace in transportation news, in my humble opinion. By next Spring we shall witness an amazing impetus in air travel.

The Department of Commerce estimates that 70,000,000 air miles were flown in the United States in 1928, which, it is stated, approximately equals the total European mileage for the same period. I venture the opinion that, now that America is getting into momentum in the matter of air travel, it will quickly forge ahead of Europe in the application of this mode of transportation (perhaps in combination with rail transport) to the living of life and the conduct of commerce. American business men's minds have begun to lift off the ground; their physical selves will soon follow.

▼

AFTER talking with the vice-president of a large Pennsylvania industry, and hearing how his company saved nearly half a million dollars last year in freight charges through the relocation of some of its plants and the readjustment of processes in various plants to favor freight rates on raw and semi-processed and fabricated materials, I begin to wonder if it might not be worth while for some of our graduate business schools to introduce a special course in Production Geography.

▼

HERE is a word-picture of America in the present era:

Life	Life	Life
Speed	Speed	Speed
Money	Money	Money
Profits	Profits	Profits
Comfort	Comfort	Comfort
Leisure	Leisure	Leisure

He would be a bold prophet who would add the next line—but it is the next line that is going to settle the fate of this civilization. Consider this well.

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THIS book, Adventures in Redesign, will give you some interesting facts — fact stories which tell how many manufacturers have reduced their production costs.

It briefly tells how these manufacturers have, through the use of Pressed Steel, reduced weight, eliminated breakage, cut cleaning and machining costs, increased strength, simplified assembly, improved eye value and opened up new markets for their products.

It contains eighteen actual examples showing how YPS Engineers have helped cut costs for manufacturers in as many industries — stove, washing and ironing machines, gasoline pump, gas meter, oil burner, carbonizer, truck tank body, railroad section car, portable saw and many other industries—how these experienced engineers have redesigned the present products or assisted in the development of new products.

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Busy Silk Worm May Lick Bears

IF you think cotton crop guessing is a hard and exciting game, consider the sport of soothsaying in sericulture, as silk growing is called, which absorbs the Japanese and also American silk importers at this season. Cotton forecasting is mere pinochle or Old Maid by comparison.

Sericulture depends not only on the weather whims of Nature which affect the mulberry leaf crop as drouth and rain affect cotton. It depends also on the instabilities of human and worm temperament, and beside the boll-weevil, whose prosaic private life is so fascinating to the cotton market, the silkworm is a Follies girl or a prima donna. Centuries of coddling have made it excessively fussy and flighty. It won't do a thing unless the temperature and the lighting effects are just right, and it can't stand noise. Heaven knows how many the roar of the Zeppelin upset this season. It takes 30,000 of them to make 12 pounds of raw silk, and they must be fed a ton of mulberry leaves properly seasoned, to do it.

And there are the Japanese girls who perform the delicate operation of reeling the raw silk from the cocoons. After a hard spell of reeling they go home in the festival days this autumn to have a good time, overeat, and what not. They return very slowly and reluctantly to take up the thread, and production is slowed up by blue Mondays which American workers have long since forgotten.

In consequence the Japan Raw Silk Association's forecast of this season's silk crop doesn't agree with that of the Japanese Department of Agriculture. The government's bearish estimate in the spring has not been borne out, and indications are that the present silk year will set a record for peak raw silk production in Japan. The reelers had been misled by a lower visible supply of cocoons this spring, but raw silk is now coming to market in large volume. It looks like a bumper crop, and export buying is slack, waiting for lower prices.

All this sounds familiar in the light of conditions in our wheat and cotton markets, and helps sympathy with the Crop Reporting Board, the private crop forecasters and all who are trying to catch Nature in a statistical net anywhere.

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BUCKET-BRIGADE BUSINESS

DELIVERY has always been a factor in commercial success, but not the kind of delivery your trade now expects, demands and *gets!* The old "twelfth of a dozen, assorted" joke has almost come true, has become a normal—and perfectly rational—trade practice.

Backed and advised by his banker, the retailer has refused definitely and permanently to carry the load. The wholesaler, for the most part, has ceased to be a reservoir. The whole chain of distribution is a *bucket-brigade*, the buckets are passed rapidly from hand to hand . . . and *nobody* holds on.

It is up to the manufacturer to produce as close to his market as possible, to warehouse within quick delivery range of his trade in each major territory—and to speed up his service all along the line.

In the South there is a dual advantage to this program. The rich Southern market is spending its new-found wealth with those who serve it best. The manufacturing economies of the South are bringing a better margin of profit to those who establish branch factories here from which to serve the market better.

Thus when you consider placing a branch factory in Georgia and a factory branch in Atlanta you are planning for a double profit. One from the profitable sale of the additional volume to be had only by serving the South from its natural economic center. The other from the broader margin of profit, due to Georgia's manufacturing advantages.

Smooth, uninterrupted operation is one of the major advantages. Efficient, willing, interested Anglo-Saxon labor speeds production, cuts costs. Taxes are low. Diversified, plentiful and cheap raw materials are within easy haul. Power rates compare with the lowest in America. Buildings cost 20% to 35% less than elsewhere.

And from Atlanta the goods made under these favorable conditions may be most effectively distributed. Fifteen main lines of eight railroad systems radiate from Atlanta, reaching eighteen million prosperous people overnight. Air mail links Atlanta — North, South, East and West—with the rest of the country, keeps Distribution City in close touch with branches and home offices in other sections.

It may be that yours is the exceptional business that cannot profit by Atlanta location—but neither you nor we can be sure of that without a careful investigation. The Atlanta Industrial Bureau stands ready to undertake a survey, to gather all the facts first hand, and to lay on your desk a thorough and authoritative report of the actual conditions here as they relate to your business.

A note from you will start this work, which will be carried on in the utmost confidence—and without charge or obligation, of course. Write

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With the Editors

The New Era-tionality

FOR five years, at least, American business has been in the grip of an apocalyptic, holy-rolling exaltation over the unparalleled prosperity of the "new era" upon which we, or it, or somebody has entered. Discussions of economic conditions in the press, on the platform, and by public officials have carried us into a cloudland of fantasy where all appraisal of present and future accomplishment is suffused with the vague implication that a North American millenium is imminent. Clear, critical, realistic and rational recognition of current problems and perplexities is rare.

Changes in the structure and processes of American industry and trade have been swift and sweeping, as the President's Committee on Recent Economic Changes has so well shown. Have these changes fundamentally altered the conditions of economic security and progress for either the individual business man or the nation? The simple truth is that we do not know. The Committee was honest and scientific enough to say so. American business should be sane and sensible enough to recognize it.

There is not a single new and important development in our economic life in recent years of which we can confidently calculate the consequences or judge the soundness and permanence. We have seen an amazing increase in man-hour production in industry since the war, but we do not know why it took place then, or whether it was merely a resumption of a rise, quite as rapid, that had been going on for fifty years before the war. We certainly do not know how long or rapidly it can continue, or, if it does, whether and how the problems of adjusting employment and consumer purchasing power to it will be met.

We have seen new industries rise like rockets, and old ones grow tired and die. We do not know how soon the new ones will fizzle out, or what others will take their place.

We have seen the machinery of distribution formed and reformed into new patterns changing every day before our eyes, but no one can say precisely where they leave the consumer and the independent enterpriser, or whether they will fundamentally alter the costs of distribution or mitigate the rigors of commercial competition.

We have seen security prices soar out of sight of earnings, brokers' loans swell till they absorb a third of the banking resources of the country, and the blind pools of ancient days return and multiply by endless crossing and pyramiding as the investment trusts of today. Banks merge and emerge in chains, trailing trusts and holding companies, while industrial corporations pay dividends not by producing goods but by buying each others' stocks and by borrowing and lending everybody's money in the market. But of all these things can anyone say with surety what they signify, whether they are safe and sound, or what they are leading to? We do not even know, or cannot agree, whether inflation exists, what it means, or how it shall be measured.

In face of the ignorance, uncertainty, and irrationality that surround every aspect of the "new era," it were wisdom for business to keep its feet firmly on the ground and assume for the present that the principles that prevailed through the long business past still govern the stability and success of business today.

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